


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 921-18D3DS		
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 0581		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b> Ute Tribe		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	888 FNL 1788 FWL	NWNW	18	9.0 S	21.0 E	S
<b>Top of Uppermost Producing Zone</b>	1200 FNL 830 FWL	NWNW	18	9.0 S	21.0 E	S
<b>At Total Depth</b>	1200 FNL 830 FWL	NWNW	18	9.0 S	21.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 830		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 2399		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1010		<b>26. PROPOSED DEPTH</b> MD: 10767 TVD: 10590		
<b>27. ELEVATION - GROUND LEVEL</b> 4712		<b>28. BOND NUMBER</b> WYB000291		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		

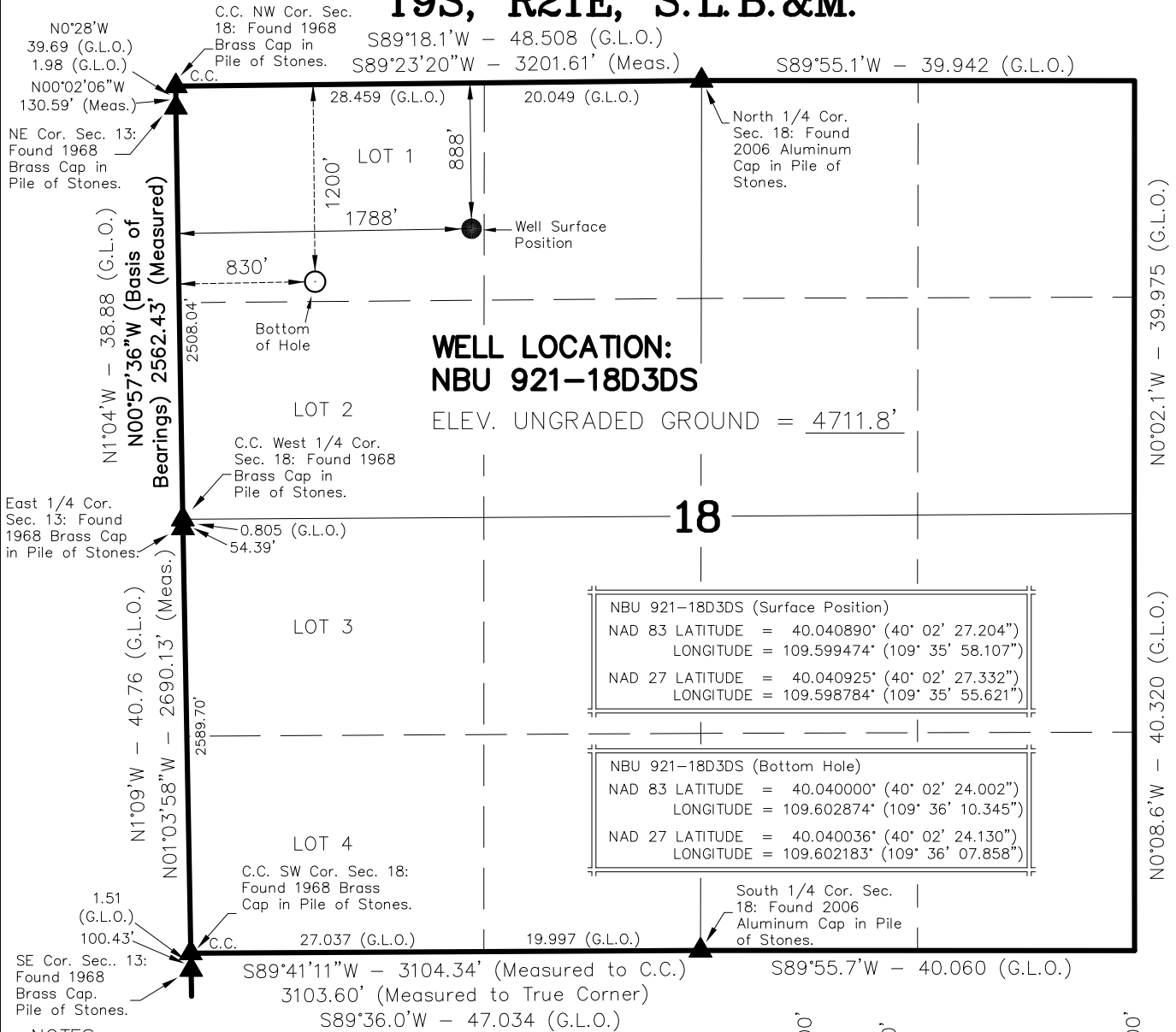
**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
<b>NAME</b> Danielle Piernot	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b>	<b>PHONE</b> 720 929-6156
<b>API NUMBER ASSIGNED</b> 43047505350000	<b>DATE</b> 07/01/2009
<b>APPROVAL</b>	<b>EMAIL</b> danielle.piernot@anadarko.com
 Permit Manager	

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	10767		
Pipe	Grade	Length	Weight			
	Grade P-110 LT&C	10767	11.6			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2700		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2700	36.0			

**T9S, R21E, S.L.B.&M.**



NOTES:

- ▲ = Section Corners Located
1. Well footages are measured at right angles to the Section Lines.
  2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
  3. The Bottom of hole bears S71°17'16"W 1005.69' from the Surface Position.
  4. Bearings are based on Global Positioning Satellite observations.
  5. Basis of elevation is Tri-Sta "Two Water" located in the NW  $\frac{1}{4}$  of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

Kerr–McGee  
Oil & Gas Onshore, LP

1099 18th Street – Denver, Colorado 80202

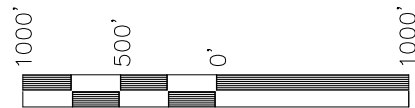
NBU 921-18D3DS

WELL PLAT

1200' FNL, 830' FWL (Bottom Hole)  
LOT 1 OF SECTION 18, T9S, R21E,  
S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



SCALE

## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS  
PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS  
MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF. No.362251

REGISTERED LAND SURVEYOR  
REGISTRATION No. 362251  
STATE OF UTAH

## TIMBERLINE

ENGINEERING &amp; LAND SURVEYING, INC.

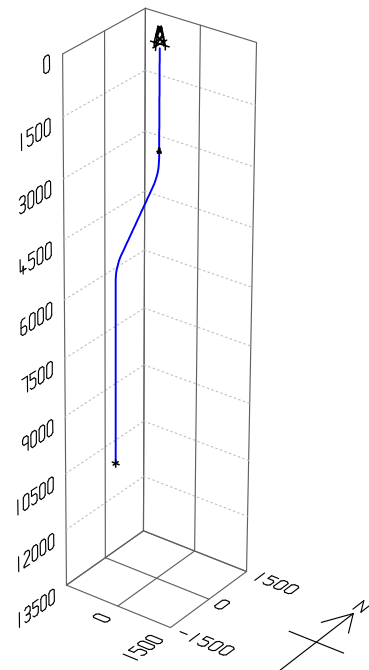
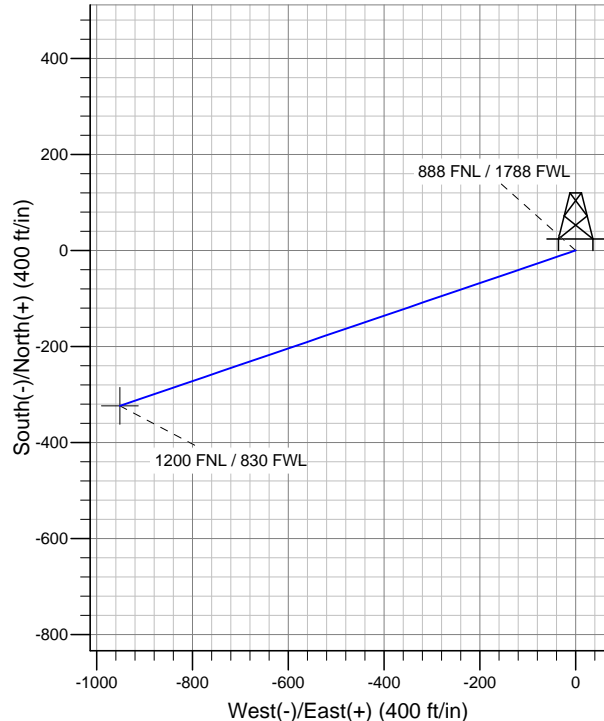
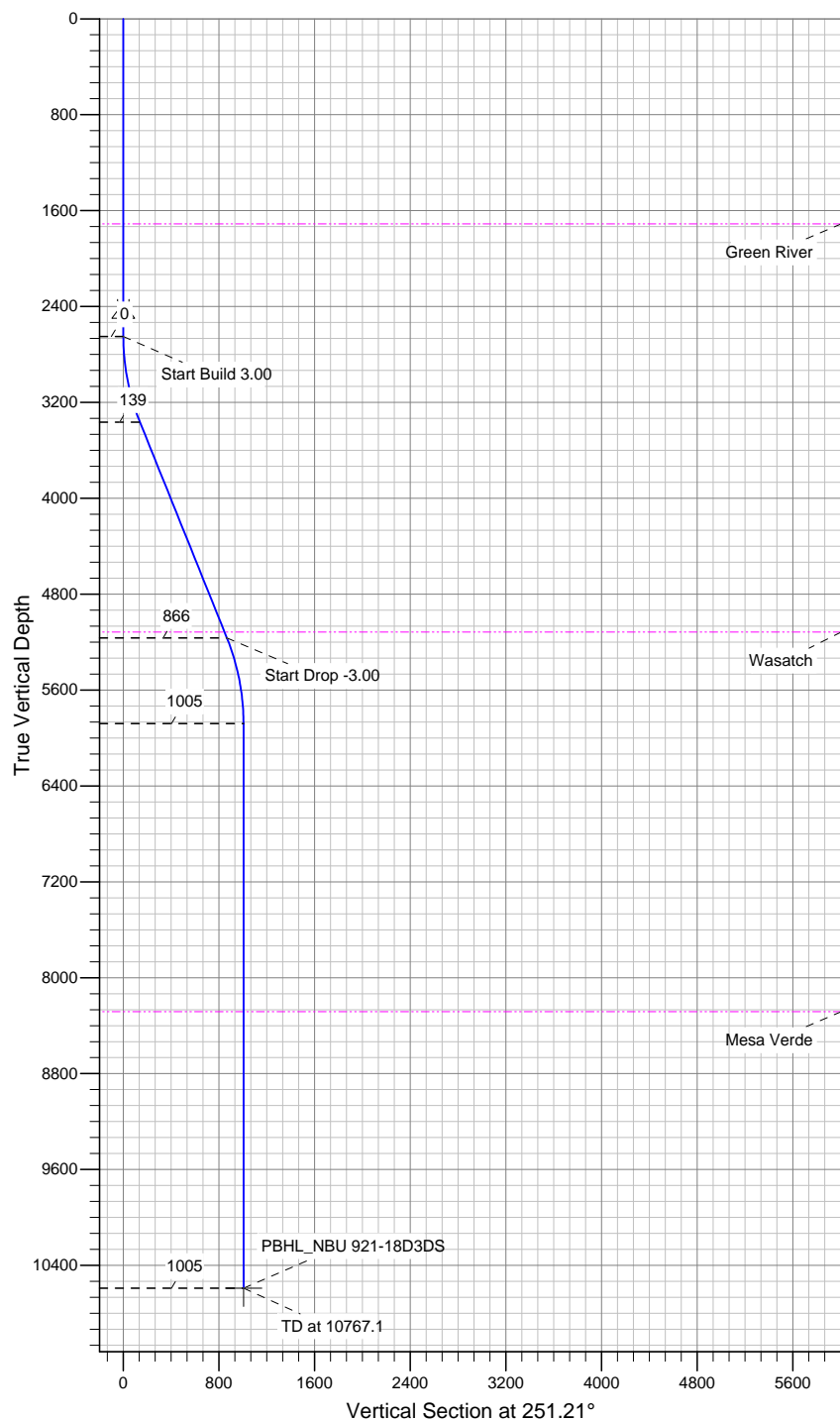
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-09-09	SURVEYED BY: M.S.B.	SHEET <b>1</b> OF 13
DATE DRAWN: 01-13-09	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised: 05-04-09	





Well Name: P\_NBU 921-18D3DS  
 Surface Location: UINTAH\_NBU 921-18D PAD  
 NAD 1927 (NADCON CONUS) Universal Transverse Mercator (US Survey Feet)  
 UTAH - UTM (feet), NAD27, Zone 12N  
 Ground Elevation: 4711.0  
 Northing 14544032.20 Easting 2032611.30 Latitude 40.040925°N Longitude 109.598784°W



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2650.0	0.00	0.00	2650.0	0.0	0.0	0.00	0.00	0.0
3	3383.3	22.00	251.21	3365.4	-44.8	-131.7	3.00	251.21	139.1
4	5323.9	22.00	251.21	5164.7	-279.0	-819.9	0.00	0.00	866.0
5	6057.3	0.00	0.00	5880.2	-323.8	-951.5	3.00	180.00	1005.1
6	10767.1	0.00	0.00	10590.0	-323.8	-951.5	0.00	0.00	1005.1



Azimuths to True North  
 Magnetic North: 11.37°

Magnetic Field  
 Strength: 52569.4snT  
 Dip Angle: 65.94°  
 Date: 6/2/2009  
 Model: IGRF200510

# **ROCKIES - PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 921-18D PAD**

**P\_NBU 921-18D3DS**

**P\_NBU 921-18D3DS**

**Plan: Plan #1 06-02-09 ZJRA6**

## **Standard Planning Report - Geographic**

**02 June, 2009**

# APC

## Planning Report - Geographic

<b>Database:</b>	apc_edmp	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-18D3DS
<b>Company:</b>	ROCKIES - PLANNING	<b>TVD Reference:</b>	WELL @ 4711.0ft (Original Well Elev)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	WELL @ 4711.0ft (Original Well Elev)
<b>Site:</b>	UINTAH_NBU 921-18D PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-18D3DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-18D3DS		
<b>Design:</b>	Plan #1 06-02-09 ZJRA6		

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site		UINTAH_NBU 921-18D PAD				
Site Position:		Northing:	14,544,048.05ft	Latitude:	40.040966°N	
From:	Lat/Long	Easting:	2,032,669.29ft	Longitude:	109.598576°W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.90 °

Well	P_NBU 921-18D3DS					
Well Position	+N/-S	0.0 ft	Northing:	14,544,032.20 ft	Latitude:	40.040925°N
	+E/-W	0.0 ft	Easting:	2,032,611.30 ft	Longitude:	109.598784°W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,711.0 ft

<b>Wellbore</b>	P_NBU 921-18D3DS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	6/2/2009	11.37	65.94	52,569

<b>Design</b>	Plan #1 06-02-09 ZJRA6			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	10,590.0	0.0	0.0	251.21

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,383.3	22.00	251.21	3,365.4	-44.8	-131.7	3.00	3.00	0.00	251.21	
5,323.9	22.00	251.21	5,164.7	-279.0	-819.9	0.00	0.00	0.00	0.00	
6,057.3	0.00	0.00	5,880.2	-323.8	-951.5	3.00	-3.00	0.00	180.00	
10,767.1	0.00	0.00	10,590.0	-323.8	-951.5	0.00	0.00	0.00	0.00	PBHL_NBU 921-18

# APC

## Planning Report - Geographic

<b>Database:</b>	apc_edmp	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-18D3DS
<b>Company:</b>	ROCKIES - PLANNING	<b>TVD Reference:</b>	WELL @ 4711.0ft (Original Well Elev)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	WELL @ 4711.0ft (Original Well Elev)
<b>Site:</b>	UINTAH_NBU 921-18D PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-18D3DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-18D3DS		
<b>Design:</b>	Plan #1 06-02-09 ZJRA6		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	14,544,032.20	2,032,611.30	40.040925°N	109.598784°W
1,710.0	0.00	0.00	1,710.0	0.0	0.0	14,544,032.20	2,032,611.30	40.040925°N	109.598784°W
<b>Green River</b>									
2,500.0	0.00	0.00	2,500.0	0.0	0.0	14,544,032.20	2,032,611.30	40.040925°N	109.598784°W
<b>Surface Casing</b>									
2,650.0	0.00	0.00	2,650.0	0.0	0.0	14,544,032.20	2,032,611.30	40.040925°N	109.598784°W
3,383.3	22.00	251.21	3,365.4	-44.8	-131.7	14,543,985.34	2,032,480.37	40.040802°N	109.599254°W
5,271.4	22.00	251.21	5,116.0	-272.6	-801.2	14,543,747.01	2,031,814.46	40.040176°N	109.601646°W
<b>Wasatch</b>									
5,323.9	22.00	251.21	5,164.7	-279.0	-819.9	14,543,740.38	2,031,795.92	40.040159°N	109.601713°W
6,057.3	0.00	0.00	5,880.2	-323.8	-951.5	14,543,693.51	2,031,664.99	40.040036°N	109.602183°W
8,460.1	0.00	0.00	8,283.0	-323.8	-951.5	14,543,693.51	2,031,664.99	40.040036°N	109.602183°W
<b>Mesa Verde</b>									
10,767.1	0.00	0.00	10,590.0	-323.8	-951.5	14,543,693.51	2,031,664.99	40.040036°N	109.602183°W

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_NBU 921-18D3	0.00	0.00	10,590.0	-323.8	-951.5	14,543,693.51	2,031,664.99	40.040036°N	109.602183°W
- plan hits target center									
- Point									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,500.0	2,500.0	Surface Casing	9-5/8	12-1/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,271.4	5,116.0	Wasatch		0.00	
1,710.0	1,710.0	Green River		0.00	
8,460.1	8,283.0	Mesa Verde		0.00	

**NBU 921-18D3DS**

Pad: NBU 921-18D

Surface: 888' FNL, 1,788' FWL (NW/4NW/4) Lot 1

BHL: 1,200' FNL 830' FWL (NW/4NW/4) Lot 1

Sec. 18 T9S R21

Uintah, Utah

Mineral Lease: UTU 0581

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,710'	
Birds Nest	1,984'	Water
Mahogany	2,492'	Water
Wasatch	5,116'	Gas
Mesaverde	8,283'	Gas
MVU2	9,267'	Gas
MVL1	9,814'	Gas
TVD	10,590'	
TD	10,767'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

**7. Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 10,767' TD, approximately equals 6,596 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 4,158 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

**10. Other Information:**

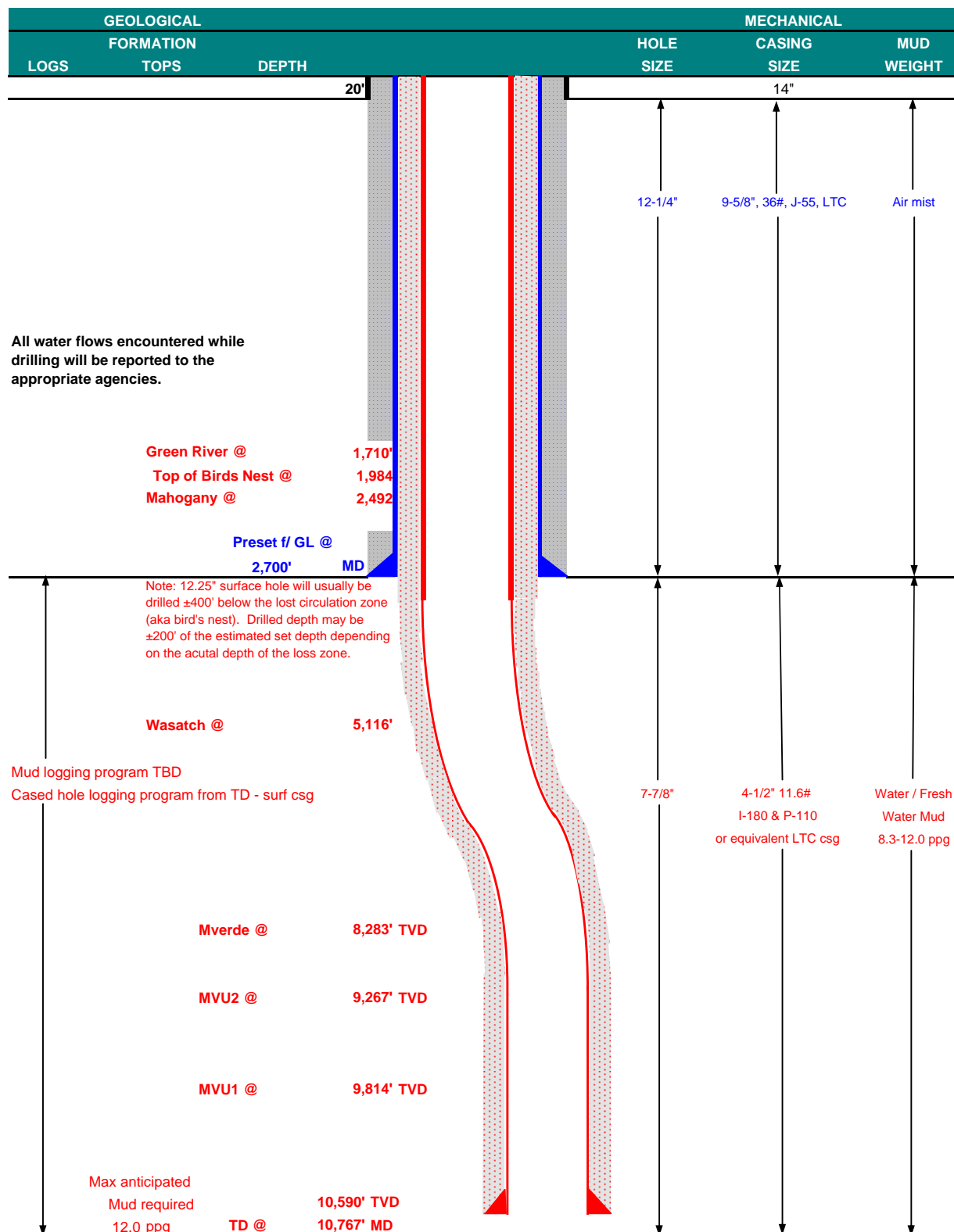
*Please refer to the attached Drilling Program.*





## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	June 29, 2009		
WELL NAME	NBU 921-18D3DS					TD	10,590'	TVD	10,767' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		4,711'
SURFACE LOCATION	NW/4 NW/4	888' FNL	1,788' FWL	Sec 18	T 9S	R 21E	Lot 1		
	Latitude: 40.040890		Longitude: -109.599474		NAD 83				
BTM HOLE LOCATION	NW/4 NW/4	1,200' FNL	830' FWL	Sec 18	T 9S	R 21E	Lot 1		
	Latitude: 40.040000		Longitude: -109.602874		NAD 83				
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Tribe (Surface), UDOGM Tri-County Health Dept.								





## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

#### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,700	36.00	J-55	LTC	0.81	1.60	5.93
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 9,827	11.60	I-80	LTC	1.82	1.12	1.97
						10,690	8,650	279,000
	4-1/2"	9,827 to 10,767	11.60	HCP-110	LTC	51.69	1.31	31.33

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)  
 (Burst Assumptions: TD = 12.0 ppg) 0.22 psi/ft = gradient for partially evac wellbore  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MASP 4,158 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 12.0 ppg) 0.61 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MABHP 6,596 psi**

#### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	2,200'	65/35 Poz + 6% Gel + 10 pps gilsonite	520	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,607'	Premium Lite II + 3% KCl + 0.25 pps	440	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,160'	50/50 Poz/G + 10% salt + 2% gel	1,510	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

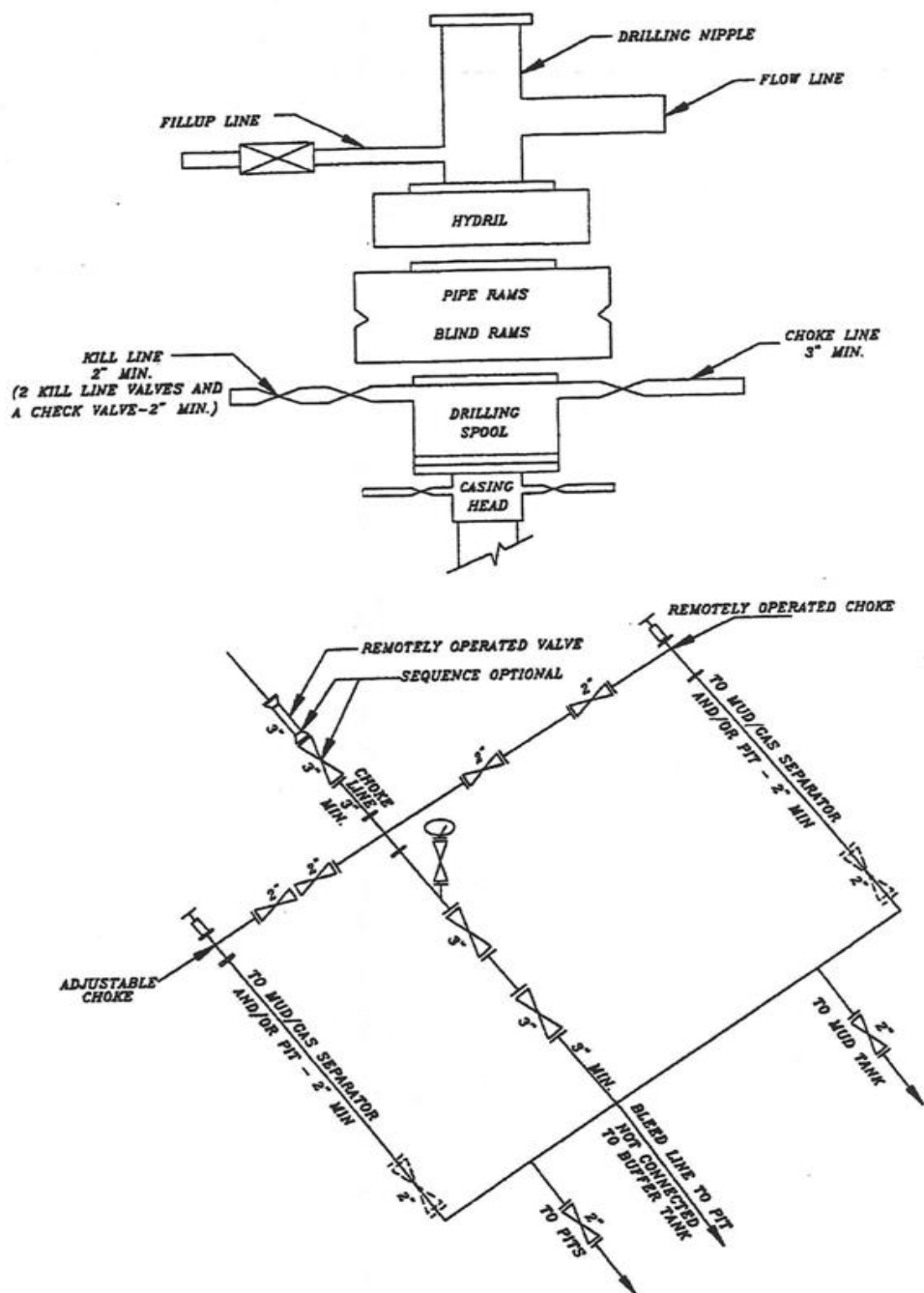
DATE:

DRILLING SUPERINTENDENT:

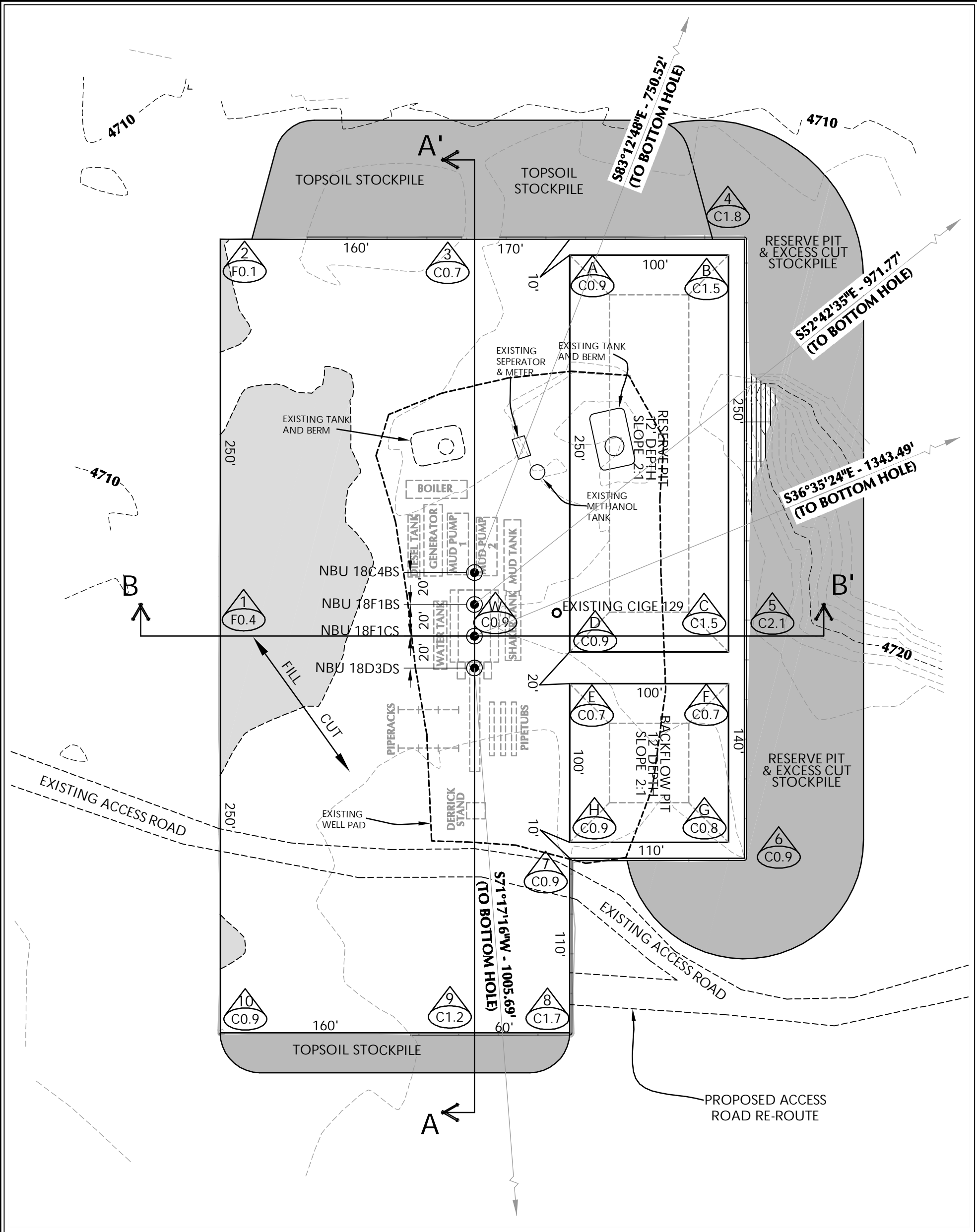
John Merkel / Lovel Young

DATE:

# EXHIBIT A NBU 921-18D3DS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



WELL PAD CIG 129 QUANTITIES

EXISTING GRADE @ CENTER OF WELL PAD = 4712.0'  
FINISHED GRADE ELEVATION = 4711.1'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 3,608 C.Y.  
TOTAL FILL FOR WELL PAD = 522 C.Y.  
TOPSOIL @ 6" DEPTH = 2,043 C.Y.  
EXCESS MATERIAL = 3,086 C.Y.  
TOTAL DISTURBANCE = 3.60 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 28,730 BARRELS  
RESERVE PIT VOLUME  
+/- 7,720 CY  
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
+/- 9,490 BARRELS  
BACKFLOW PIT VOLUME  
+/- 2,660 CY

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

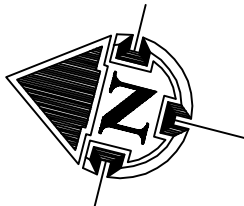
KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
1099 18th Street - Denver, Colorado 80202



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

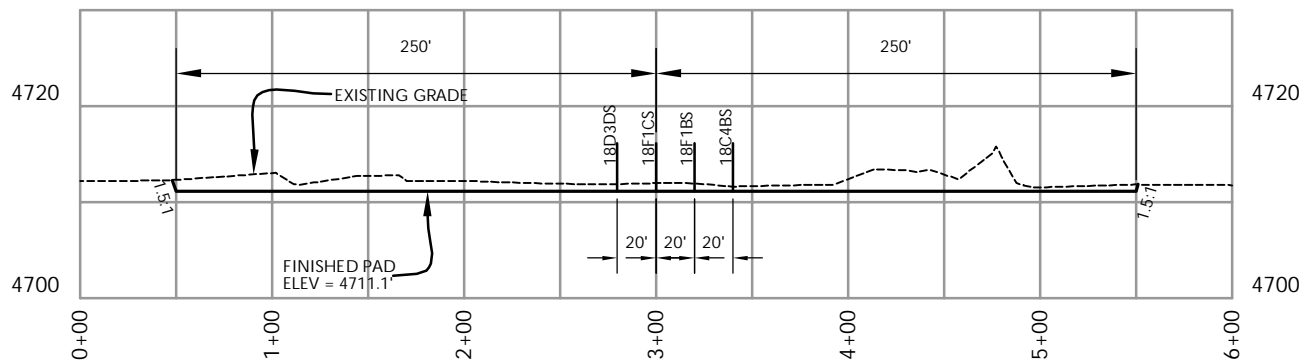
Scale: 1"=60'	Date: 2/27/09	SHEET NO: 6
REVISED:	GMH 5/19/09	6 OF 13

HORIZONTAL 0 30 60 1" = 60'  
2' CONTOURS

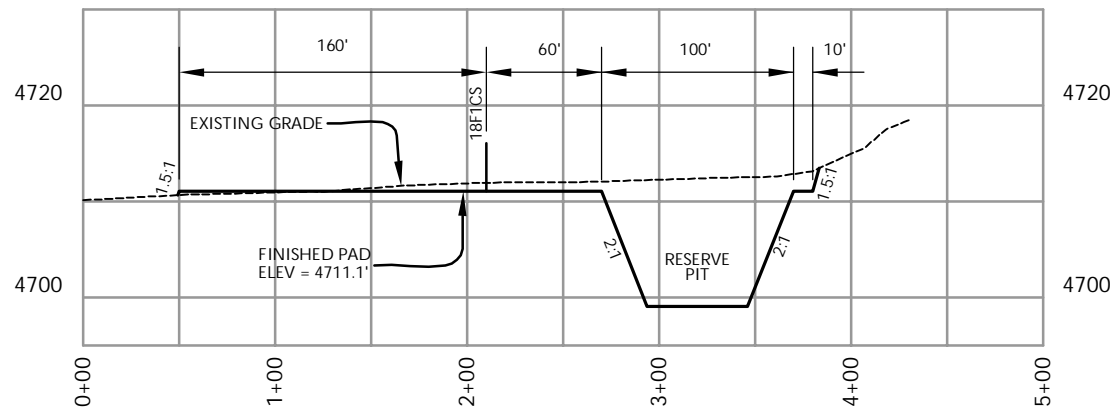


Timberline Engineering & Land Surveying, Inc. (435) 789-1365  
38 WEST 100 NORTH VERNAL, UTAH 84078

WELL PAD - LOCATION LAYOUT  
NBU 921-18D3DS, NBU 921-18F1CS,  
NBU 921-18F1BS & NBU 921-18C4BS  
LOCATED IN SECTION 18, T.9S., R.21E.  
S.L.B.&M., UINTAH COUNTY, UTAH



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS  
MAXIMUM RESERVE PIT DEPTH.

**KERR-MCGEE OIL & GAS  
ONSHORE L.P.**

1099 18th Street - Denver, Colorado 80202

**WELL PAD - CROSS SECTIONS**  
 NBU 921-18D3DS, NBU 921-18F1CS,  
 NBU 921-18F1BS & NBU 921-18C4BS  
 LOCATED IN SECTION 18, T.9S., R.21E.  
 S.L.B.&M., UINTAH COUNTY, UTAH



**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

Scale: 1"=100'

Date: 2/27/09

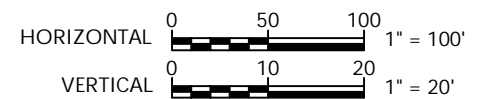
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GMH  
5/19/09

**7**

7 OF 13



**Timberline** (435) 789-1365  
**Engineering & Land Surveying, Inc.**  
 38 WEST 100 NORTH VERNAL, UTAH 84078

# BOTTOM HOLE FOOTAGES

NBU 921-18D3DS  
1200' FNL & 830' FWL

NBU 921-18F1CS  
1970' FNL & 2590' FWL

NBU 921-18F1BS  
1475' FNL & 2590' FWL

NBU 921-18C4BS  
970' FNL & 2590' FWL

# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD - CIGE 129

BASIS OF BEARINGS IS THE EAST LINE OF THE NE 1/4 OF SECTION 13, T9S, R20E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°57'36"W.



LATITUDE & LONGITUDE Surface Position - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-18D3DS	40°02'27.204" 40.040890°	109°35'58.107" 109.599474°
921-18F1CS	40°02'27.253" 40.040904°	109°35'57.857" 109.599405°
921-18F1BS	40°02'27.302" 40.040917°	109°35'57.608" 109.599335°
921-18C4BS	40°02'27.351" 40.040931°	109°35'57.358" 109.599266°
Existing Well CIGE 129	40°02'26.793" 40.040776°	109°35'57.509" 109.599308°

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-18D3DS	40°02'24.002" 40.040000°	109°36'10.345" 109.602874°
921-18F1CS	40°02'16.607" 40.037946°	109°35'47.543" 109.596540°
921-18F1BS	40°02'21.497" 40.039305°	109°35'47.659" 109.596572°
921-18C4BS	40°02'26.486" 40.040690°	109°35'47.777" 109.596605°

S75°42'23"W  
AZ=255.70639°  
S71°17'16"W - 1005.69'  
(To Bottom Hole)  
AZ=251.28778°

### SURFACE POSITION FOOTAGES:

NBU 921-18D3DS  
888' FNL & 1788' FWL

NBU 921-18F1CS  
883' FNL & 1807' FWL

NBU 921-18F1BS  
878' FNL & 1827' FWL

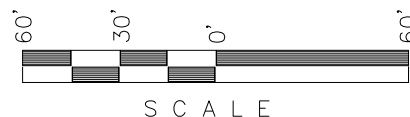
NBU 921-18C4BS  
873' FNL & 1846' FWL

EXISTING WELL CIGE 129  
930' FNL & 1834' FWL

LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-18D3DS	40°02'27.332" 40.040925°	109°35'55.621" 109.598784°
921-18F1CS	40°02'27.381" 40.040939°	109°35'55.371" 109.598714°
921-18F1BS	40°02'27.430" 40.040953°	109°35'55.121" 109.598645°
921-18C4BS	40°02'27.479" 40.040966°	109°35'54.872" 109.598576°
Existing Well CIGE 129	40°02'26.920" 40.040811°	109°35'55.023" 109.598617°

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-18D3DS	40°02'24.130" 40.040036°	109°36'07.858" 109.602183°
921-18F1CS	40°02'16.735" 40.037982°	109°35'45.057" 109.595849°
921-18F1BS	40°02'21.625" 40.039340°	109°35'45.173" 109.595881°
921-18C4BS	40°02'26.614" 40.040726°	109°35'45.291" 109.595914°

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
921-18D3DS	-323'	-953'
921-18F1CS	-1079'	801'
921-18F1BS	-589'	773'
921-18C4BS	-89'	745'



**Kerr-McGee**  
Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

NBU 921-18D3DS, NBU 921-18F1CS,  
NBU 921-18F1BS & NBU 921-18C4BS  
LOCATED IN SECTION 18, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 01-09-09	SURVEYED BY: M.S.B.
DATE DRAWN: 01-14-09	DRAWN BY: M.W.W.
REVISED: 05-04-09	

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
**5**  
OF 13

'APIWellNo:43047505350000'



'APIWellNo:43047505350000'





'APIWellNo:43047505350000'



'APIWellNo:43047505350000'



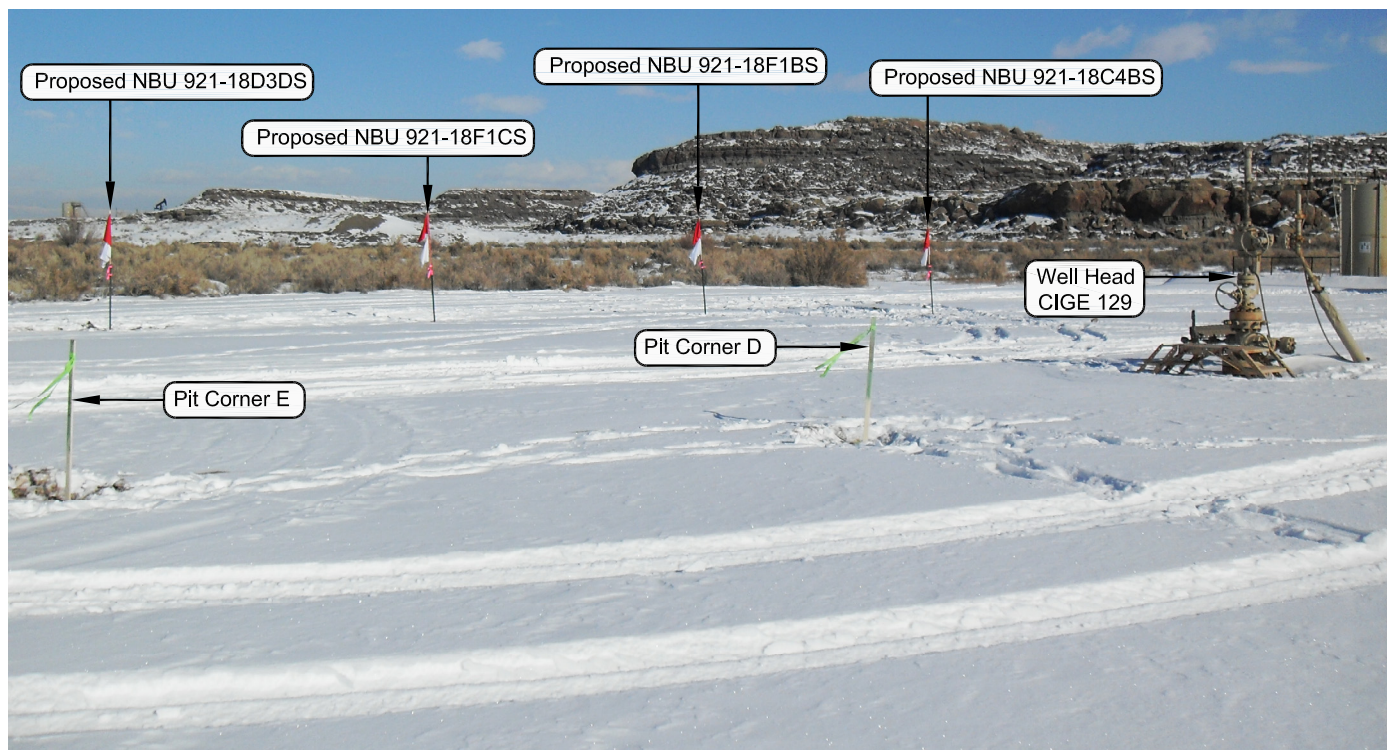


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: NORTHEASTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHERLY

**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
 1099 18th Street - Denver, Colorado 80202

NBU 921-18D3DS, NBU 921-18F1CS,  
 NBU 921-18F1BS & NBU 921-18C4BS  
 LOCATED IN SECTION 18, T9S, R21E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: M.W.W.

DATE TAKEN: 01-09-09

DATE DRAWN: 01-15-09

REVISED: 05-04-09

**Timberline** (435) 789-1365  
*Engineering & Land Surveying, Inc.*  
 209 NORTH 300 WEST VERNAL, UTAH 84078

**SHEET**  
**8**  
**OF 13**

**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 921-18D3DS NBU 921-18F1CS NBU 921-18F1BS NBU 921-18C4BS**  
**Section 18, T9S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF A SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 4.4 MILES TO A SECOND SERVICE ROAD TO THE NORTH. EXIT LEFT AND PROCEED IN A NORTHERLY DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.6 MILES TO A THIRD SERVICE ROAD TO THE EAST. EXIT RIGHT AND PROCEED IN AN EASTERLY, THEN NORTHERLY, THEN NORTHWESTERLY DIRECTION ALONG THE THIRD SERVICE ROAD 1.7 MILES TO THE EXISTING CIGE 129 WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 42.7 MILES IN A SOUTHERLY DIRECTION.

**NBU 921-18C4BS**

Surface: 873' FNL, 1,846' FWL (NW/4NW/4) Lot 1  
BHL: 970' FNL 2,590' FWL (NE/4NW/4)

**NBU 921-18D3DS**

Surface: 888' FNL, 1,788' FWL (NW/4NW/4) Lot 1  
BHL: 1,200' FNL 830' FWL (NW/4NW/4) Lot 1

**NBU 921-18F1BS**

Surface: 878' FNL, 1,827' FWL (NW/4NW/4) Lot 1  
BHL: 1,475' FNL 2,590' FWL (SE/4NW/4)

**NBU 921-18F1CS**

Surface: 883' FNL, 1,807' FWL (NW/4NW/4) Lot 1  
BHL: 1,970' FNL 2,590' FWL (SE/4NW/4)

Pad: NBU 921-18D  
Sec. 18 T9S R21

Uintah, Utah  
Mineral Lease: UTU 0581

Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. NOSs were submitted showing the surface locations in NW/4 NW/4 of Section 18 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon – BLM;
- Kolby Kay and Mitch Batty – Timberline Surveying, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard – Kerr-McGee
- Bucky Secakuku – BIA
- Nick Hall – Grasslands Consulting, Inc.
- Scott Carson – Smiling Lake Consulting
- Keith Montgomery – Montgomery Archaeological Consultants, Inc.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 0.02$  ( $\pm 85'$ ) mile of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

*The following guidelines will apply if the well is productive.*

**Approximately  $\pm 5,780'$  of new pipeline is proposed. Refer to Topo D for the existing pipeline.**

Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place

**5. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, Application number 53617. Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**7. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*



Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E

Ace Oilfield in Sec. 2 T6S R20E

MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

**8. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**9. Well Site Layout:** (See Location Layout Diagram)

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**10. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

**11. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe

PO Box 70

Fort Duchesne, Utah 84026

435-722-5141

The mineral ownership is listed below:

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
435-781-4400

**12. Other Information:**

*See MDP for additional details on Other Information.*



**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Staff Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

June 29, 2009  
Date



Kerr-McGee Oil & Gas Onshore LP  
P.O. Box 173779  
Denver, CO 80217-3779

June 9, 2009

Diana Mason  
Utah Department of Oil, Gas & Mining  
P.O. Box 145801  
Salt Lake City, Utah 54114-6100

RE: Directional Drilling Letter R649-3-11  
NBU 921-18D3DS  
T9S-R21E  
Section 18: NW4/NW/4 surface and bottom hole  
888' FNL, 1788' FWL (surface)  
1200' FNL, 830' FWL (bottom hole)  
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are herby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 921-18D3DS is located within the Natural Buttes Unit Area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit to be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'Joe Matney'.

Joe Matney  
Senior Staff Landman

'APIWellNo:43047505350000'

**Paleontological Assessment for  
Anadarko Petroleum Corp.**

**NBU 921-18C4BS, D3DS, F1BS, F1CS**

Ouray SE Quadrangle

Uintah County, Utah

Prepared for

**Anadarko Petroleum Corp.**

and

**Ute Tribe**

**Uintah and Ouray Reservation**

Prepared by

**SWCA Environmental Consultants**

SWCA #UT09-14314-21

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S 34 PROPOSED WELL LOCATIONS  
IN TOWNSHIP 9S, RANGE 21E,  
SECTIONS 11, 15, 18, 22, 25 AND 28  
UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:  
Ute Tribal Land  
Uintah and Ouray Agency

Bureau of Land Management  
Vernal Field Office  
and  
State of Utah  
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 08-319

February 19, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

Ute Tribal Permit No. A08-363



API Number: 4304750535

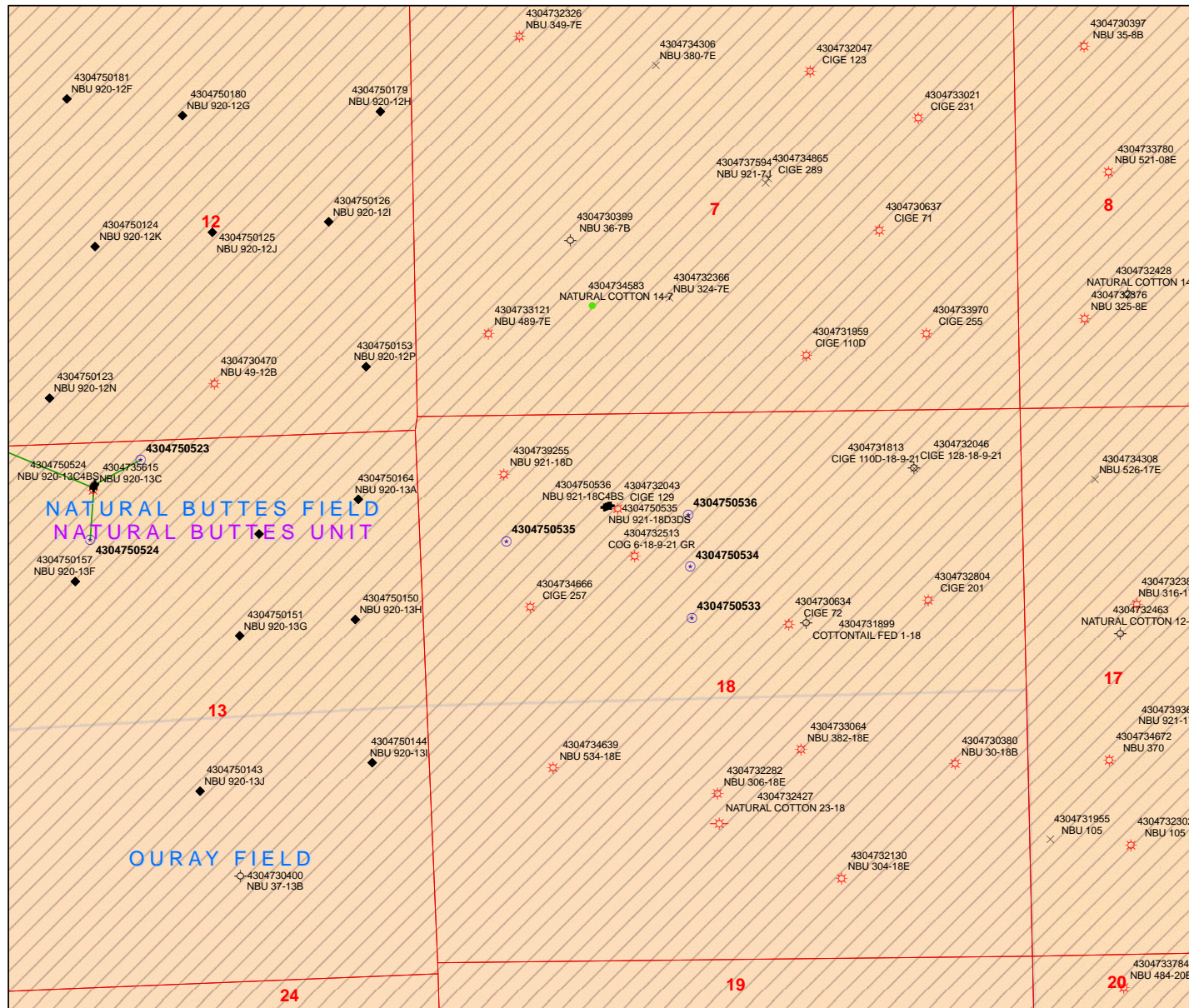
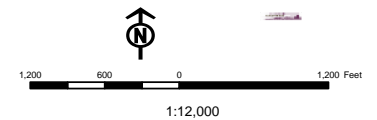
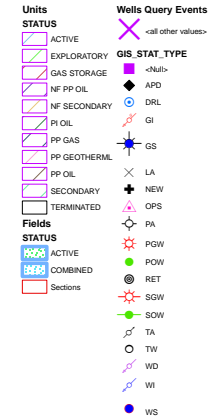
Well Name: NBU 921-18D3DS

Township 09.0 S Range 21.0 E Section 18

Meridian: SLBM

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
Map Produced by Diana Mason



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:  
3160  
(UT-922)

July 10, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District  
From: Michael Coulthard, Petroleum Engineer  
Subject: 2009 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
43-047-50526	NBU 920-14M1CS Sec 14 T09S R20E 0449 FSL 0640 FWL BHL Sec 14 T09S R20E 0840 FSL 0690 FWL	
43-047-50533	NBU 921-18F1CS Sec 18 T09S R21E 0883 FNL 1807 FWL BHL Sec 18 T09S R21E 1970 FNL 2590 FWL	
43-047-50534	NBU 921-18F1BS Sec 18 T09S R21E 0878 FNL 1827 FWL BHL Sec 18 T09S R21E 1475 FNL 2590 FWL	
43-047-50535	NBU 921-18D3DS Sec 18 T09S R21E 0888 FNL 1788 FWL BHL Sec 18 T09S R21E 1200 FNL 0830 FWL	
43-047-50536	NBU 921-18C4BS Sec 18 T09S R21E 0873 FNL 1846 FWL BHL Sec 18 T09S R21E 0970 FNL 2590 FWL	

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:7-10-09

# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 7/1/2009

**API NO. ASSIGNED:** 43047505350000

**WELL NAME:** NBU 921-18D3DS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NWNW 18 090S 210E

**Permit Tech Review:** ☒

**SURFACE:** 0888 FNL 1788 FWL

**Engineering Review:** ☒

**BOTTOM:** 1200 FNL 0830 FWL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 40.04085

**LONGITUDE:** -109.59879

**UTM SURF EASTINGS:** 619541.00

**NORTHINGS:** 4433021.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0581

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 2 - Indian

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** FEDERAL - WYB000291

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☐ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☒ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-18D3DS  
**API Well Number:** 43047505350000  
**Lease Number:** UTU 0581  
**Surface Owner:** INDIAN  
**Approval Date:** 7/16/2009

#### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### Commingling:

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.



**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

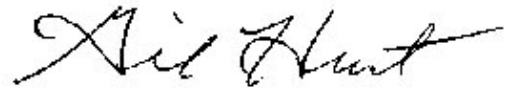
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, flowing script.

Gil Hunt  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000			
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> Uintah		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 7/16/2010  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION           </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER           </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input checked="" type="checkbox"/> APD EXTENSION            OTHER: _____         </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: _____
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: _____			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.					
<b>NAME (PLEASE PRINT)</b> Danielle Piernot		<b>PHONE NUMBER</b> 720 929-6156			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 7/16/2010		<b>APPROVED BY:</b> <div style="text-align: right;"> <b>Approved by the Utah Division of Oil, Gas and Mining</b>   <b>Date:</b> <u>July 22, 2010</u>  <b>By:</b> </div>			



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047505350000

**API:** 43047505350000

**Well Name:** NBU 921-18D3DS

**Location:** 0888 FNL 1788 FWL QTR NWNW SEC 18 TWP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 7/16/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 7/16/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** July 22, 2010

**By:** 

**RECEIVED** July 16, 2010

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

JUL 01 2009

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

## APPLICATION FOR PERMIT TO DRILL OR REENTER

BLM

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0581
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERRMCGEE OIL&GAS ONSHORE LP		7. If Unit or CA Agreement, Name and No. 891008900A
Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		8. Lease Name and Well No. NBU 921-18D3DS
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156	9. API Well No. 43-047-60535
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNW Lot 1 888FNL 1788FWL 40.04089 N Lat, 109.59947 W Lon At proposed prod. zone NWNW Lot 1 1200FNL 830FWL 40.04000 N Lat, 109.60287 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 12 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 18 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 830 FEET	16. No. of Acres in Lease 2399.60	12. County or Parish UINTAH
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 1010 FEET	19. Proposed Depth 10767 MD 10590 TVD	13. State UT
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4712 GL	22. Approximate date work will start 07/20/2009	17. Spacing Unit dedicated to this well
		20. BLM/BIA Bond No. on file WYB000291
		23. Estimated duration 60-90 DAYS

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 07/01/2009
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date MAY 02 2011
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

## CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #71597 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Bureau of Land Management  
Committed to AFMSS for processing by BLM JENKINS on 07/02/2009

NOTICE OF APPROVAL

UDOGM

MAY 04 2011

AFMSS#

\*\* OPERATOR-SUBMITTED \*\* DIV. OF OIL, GAS &amp; MINING \*\* OPERATOR-SUBMITTED \*\*

096XJ5116AE



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE  
170 South 500 East VERNAL, UT 84078 (435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company:	Kerr McGee Oil & Gas Onshore	Location:	Lot 1, Sec. 18, T9S, R21E
Well No:	NBU 921-18D3DS	Lease No:	UTU-0581
API No:	43-047-50535	Agreement:	Natural Buttes Unit

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Location Construction (Notify Environmental Scientist)	- Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	- Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.
- Paint old and new facilities "Shadow Gray."
- Move the existing pipeline off the damage area of the well pad.
- Monitor construction operations by a permitted archaeologist.
- Construct diversion drainages around the west side of the well pad.
- Construct Facilities According to The BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM, 2003) if needed.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002, a raptor survey shall be conducted prior to expansion of the well pad or pipeline upgrade if construction will take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during a new survey, KMG shall conduct its operations according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines. An active great horned owl nest must be offset by a distance of 0.25 mile during the nesting season from February 1 through September 30 (See Appendix D).
- If project construction operations are not initiated before June 17, 2010, KMG shall conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

**BIA Standard Conditions of Approval:**

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on

access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.

- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel shall refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG shall conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor nest are indentified during a new survey, KMG shall conduct its operations according to the seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel shall refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

- **DOWNHOLE PROGRAM**

**CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- A formation integrity test shall be performed at the surface casing shoe.
- A Gama Ray Log shall be run from TD to surface.

**Variances Granted:**

**Air Drilling:**

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.



- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS			
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000			
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.					
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 06/20/2011 <b>By:</b>					
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 6/13/2011					



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047505350000

**API:** 43047505350000

**Well Name:** NBU 921-18D3DS

**Location:** 0888 FNL 1788 FWL QTR NWNW SEC 18 TWNP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 7/16/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Signature:** Andy Lytle

**Date:** 6/13/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED** Jun. 13, 2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Kerr-McGee Oil and Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the total depth (TD) to include the Blackhawk formation, which is in the Mesaverde group for this well. In addition, Kerr-McGee respectfully requests approval in the well design, which includes hole and casing size changes. Please see the attached for additional details. Please contact the undersigned if you have any questions and/or comments. Thank you.		
<b>NAME (PLEASE PRINT)</b> Laura Abrams		<b>PHONE NUMBER</b> 720 929-6356
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst II  <b>DATE</b> 6/15/2011

Approved by the  
 Utah Division of  
 Oil, Gas and Mining

Date: 06/20/2011

By: 

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-18D3DS**

Surface: 888 FNL / 1788 FWL NWNW  
 BHL: 1200 FNL / 830 FWL NWNW

Section 18 T9S R21E

Unitah County, Utah  
 Mineral Lease: UTU 0581

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1731	
Birds Nest	1997	Water
Mahogany	2382	Water
Wasatch	5138	Gas
Mesaverde	8318	Gas
MVU2	9284	Gas
MVL1	9836	Gas
Sego	10608	Gas
Castlegate	10734	Gas
MN5	10998	Gas
TVD	11598	
TD	11775	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program*

7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 11598' TVD, approximately equals  
7,708 psi (0.66 psi/ft = actual bottomhole gradient)

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Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 5,156 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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Per Onshore Order No. 2 - Max Anticipated Surf. Press. (MASP) = (Pore Pressure at next csg point-

(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. **Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

9. **Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

**Background**

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*



*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and*

*on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

10. **Other Information:**

*Please refer to the attached Drilling Program.*



**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP				DATE	June 14, 2011		
WELL NAME	<b>NBU 921-18D3DS</b>				TD	11,598'	TVD	11,775' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	5,288'
SURFACE LOCATION	NWNW	888 FNL	1788 FWL	Sec 18	T 9S	R 21E		
	Latitude:	40.040890	Longitude:	-109.599474			NAD 83	
BTM HOLE LOCATION	NWNW	1200 FNL	830 FWL	Sec 18	T 9S	R 21E		
	Latitude:	40.040000	Longitude:	-109.602874			NAD 83	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde							
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.							

[illegible]



## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	BTC
								TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,830	28.00	IJ-55	LTC	1.91	1.42	5.02	N/A
						10,690	8,650	279,000	367,000
PRODUCTION	4-1/2"	0 to 11,775	11.60	HCP-110	LTC or BTC	1.19	1.10	2.55	3.35

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15
Option 1			+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
			+ 2% CaCl + 0.25 pps flocele					
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	2,330'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00		3.82
			+ 0.25 pps Flocele + 3% salt BWOW					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	4,635'	Premium Lite II + 0.25 pps	350	20%	11.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	7,140'	50/50 Poz/G + 10% salt + 2% gel	1,680	35%	14.30		1.31
			+ 0.1% R-3					

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

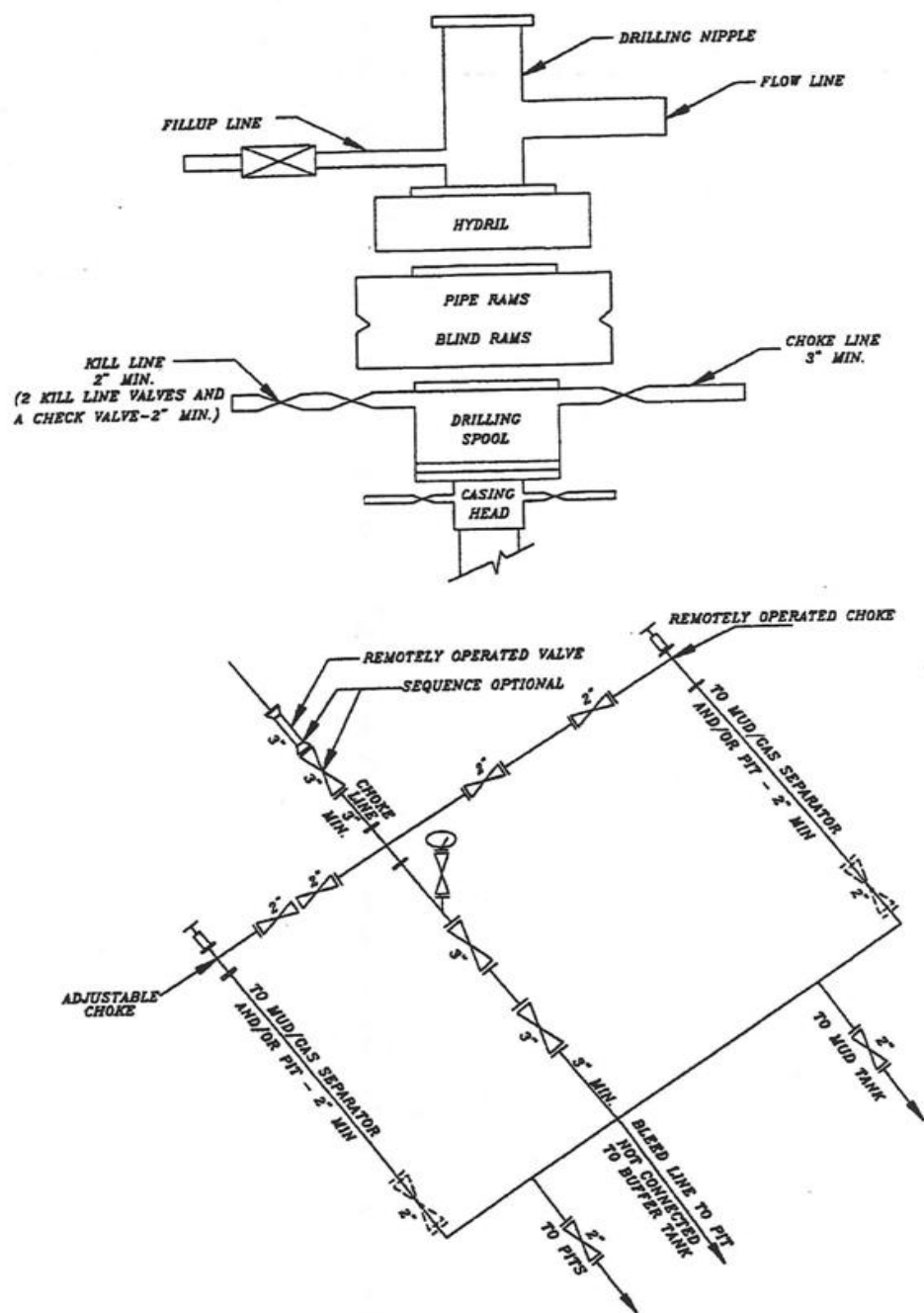
Nick Spence / Danny Showers

**DATE:****DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**

# EXHIBIT A NBU 921-18D3DS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 6/23/2011	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 06/23/2011 AT 1200 HRS.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/27/2011	

BLM - Vernal Field Office - <sup>Spud</sup> Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By SHEILA WOPSOCI Phone Number 435.781.7024  
Well Name/Number NBU 921-18D3DS  
Qtr/Qtr NWNW Section 18 Township 9S Range 21E  
Lease Serial Number UTU-0581  
API Number 4304750535

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 06/23/2011 1400 HRS AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

Date/Time 07/14/2011 0800 HRS AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
KENNY GATHINGS AT 435.781.7048 FOR MORE +

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750535	NBU 921-18D3DS		NWNW	18	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	6/23/2011		<u>6/29/11</u>		
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL ON 06/23/2011 AT 1200 HRS. <u>BHL = NWNW</u>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

6/27/2011

Date

(5/2000)

**RECEIVED**

**JUN 27 2011**

**DIV. OF OIL, GAS & MINING**



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/17/2011	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU AIR RIG ON JULY 13, 2011. DRILLED SURFACE HOLE TO 2855'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 7/18/2011		

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By SHEILA WOPSOCI Phone Number 435.781.7024  
Well Name/Number NBU 921-18D3DS  
Qtr/Qtr NWNW Section 18 Township 9S Range 21E  
Lease Serial Number UTU-0581  
API Number 4304750535

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 06/23/2011 1400 HRS AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

RECEIVED

JUN 28 2011

DIV. OF OIL, GAS & MINING

Date/Time 07/14/2011 0800 HRS AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
KENNY GATHINGS AT 435.781.7048 FOR MORE

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
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<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS			
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<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>  <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/30/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<b>TYPE OF ACTION</b>  <table style="width:100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  This sundry is being submitted on behalf of the Natural Buttes Unit. Kerr-McGee Oil and Gas, LP requests authorization to drill the above captioned well with a closed-loop system. Please see the attached Exhibit A. Thank you.					
<b>NAME (PLEASE PRINT)</b> Laura Abrams		<b>PHONE NUMBER</b> 720 929-6356			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst II			
<b>DATE</b> 8/30/2011		<b>Accepted by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 09/14/2011 <b>By:</b>			

Exhibit A

Kerr-McGee Oil and Gas Onshore, LP respectfully requests authorization to drill the above captioned well utilizing a closed-loop mud system.

The drilling pit was constructed per the requirements of the Application for Permit to Drill; therefore the liner will be temporarily removed from the pit, the pit will be partially backfilled, and liner will be re-set. All other aspects of the pit shall remain the same.

Equipment for the closed-loop system will be as follows:

- 2 HS-3400 Centrifuge
- 1 Conical Clarifying Tank
- 1 Polymer/Flocculation Unit
- 1 Catch Tank for Solids
- 1 4x3 Centrifugal Pump

Storage Tank Roll (6 frac tanks - 4 water, 2 mud):

- 1 4x3 Centrifugal Pump
- 1 Manifold
- 8 3-inch hose/20 foot section x qty 8 (estimate)
- 8 4-inch hose/20 foot section x qty 8 (estimate)

A 250 KW Generator (est. 20 gal/hr fuel rate) and a Power Distribution Panel will be utilized if deemed necessary.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS			
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<div style="text-align: right; font-weight: bold; font-size: 1.2em;">         Accepted by the          Utah Division of          Oil, Gas and Mining  <b>FOR RECORD ONLY</b> </div>					
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst			
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/29/2011				

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
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<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 9/29/2011					

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54  
Submitted By STUART NEILSON Phone Number 435-790-2921  
Well Name/Number NBU 921-18D3DS  
Qtr/Qtr NW4, NW/4 Section 18 Township 9S Range 21E  
Lease Serial Number UTU0581  
API Number 4304750535

Casing – Time casing run starts, not cementing times.

- ☐ Production Casing  
☐ Other

Date/Time \_ \_ AM ☐ PM ☐

RECEIVED

OCT 18 2011

DIV. OF OIL, GAS & MINING

BOPE

- ☒ Initial BOPE test at surface casing point  
☐ Other

Date/Time 10/18/11 6 AM ☒ PM ☐

Rig Move

Location To:

Date/Time \_ \_ AM ☐ PM ☐

Remarks

## State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54  
Submitted By KALIB FORD Phone Number 435-790-2921  
Well Name/Number NBU 921-18D3DS  
Qtr/Qtr NW4, NW/4 Section 18 Township 9S Range 21E  
Lease Serial Number UTU0581  
API Number 4304750535

Casing – Time casing run starts, not cementing times.

☒ Production Casing  
☐ Other

Date/Time 10/28/11 230 AM ☐ PM ☒

### BOPE

☐ Initial BOPE test at surface casing point  
☐ Other

Date/Time \_ \_ AM ☐ PM ☐

**RECEIVED**

**NOV 01 2011**

DIV. OF OIL, GAS & MINING

### Rig Move

Location To:

Date/Time \_ \_ AM ☐ PM ☐

Remarks



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<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 10/31/2011		<b>FOR RECORD ONLY</b>			

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS			
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<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> The operator requests approval for the attached well procedure. The subject well will be fracture stimulated and followed by remedial cement squeezes. This well has been identified as requiring remediation and is currently being monitored and handled by our bradenhead best management practices. Thank you.					
<b>Accepted by the Utah Division of Oil, Gas and Mining</b>		<b>Date:</b> 12/20/2011 <b>By:</b>			
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 12/16/2011					

# Greater Natural Buttes Unit



**NBU 921-18D3DS**

**COMPLETIONS PROCEDURE AND CEMENT SQUEEZE**

**DATE:12/2/11**

**AFE#:2028727**

**API#:4304750535**

**USER ID:OOT937** (Frac Invoices Only)

**COMPLETIONS ENGINEER:** Zachary Garrity, Denver, CO  
(720) 929-6180 (Office)  
(406) 781-6427 (Cell)

**SIGNATURE:**

**ENGINEERING MANAGER: JEFF DUFRESNE**

**SIGNATURE:**

**REMEMBER SAFETY FIRST!**

**RECEIVED** Dec. 16, 2011

**Name:** NBU 921-18D3DS  
**Location:** SE SW NW NW Sec 18 T9S R21E  
**LAT:** 40.040890 **LONG:** -109.599474 **COORDINATE:** NAD83 (*Surface Location*)  
**Uintah County, UT**  
**Date:** 12/2/11

**ELEVATIONS:** 4711' GL 4730' KB *Frac Registry TVD: 11644'*

**TOTAL DEPTH:** 11799' **PBTD:** 11744'  
**SURFACE CASING:** 9 5/8", 36# J-55 LT&C @ 2841'  
**PRODUCTION CASING:** 4 1/2", 11.6#, P-110 BT&C @ 11790'  
 Marker Joint **5310-5331; 8460-8481; and 11150-11171'**

**TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl/ft)	(gal/ft)
2 3/8" 4.7# J-55 tbg	7,700	8,100	1.901"	0.00387	0.1624
4 1/2" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
4 1/2" 11.6# P-110	10691	7580	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

**TOPS:**

1796' Green River Top  
 2071' Bird's Nest Top  
 2586' Mahogany Top  
 5282' Wasatch Top  
 8440' Mesaverde Top

**BOTTOMS:**

8440' Wasatch Bottom  
 11799' Mesaverde Bottom (TD)

**T.O.C. @ 4690' Schlumberger CBL - 11/11/11**

**GENERAL:**

- A minimum of **44** tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Schlumberger's RST log dated 11/11/11.
  - **Please note that the perfs were picked on the RST after they had been correlated to the openhole log. Perfs will be approx. 15ft shallower when you shoot/correlate them to the RST.**
    - **Ex: Perf Letter has 11,476-11,477 → Correlated GR and shoot at approx. 11,461-11,462**
- 3 fracturing stages required for coverage.
- Procedure calls for 3 CBP's (1-8,000 and 2-10,000 psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- Pump scale inhibitor as per design

- 30/50 mesh **TLC** sand, **Slickwater frac**.
- Maximum surface pressure **9000 psi**.
- **If casing pressure test fails. MIRU with tubing and packer. Isolate leak by pressure testing above and below the packer. RIH and set appropriate casing leak remediation (specific details on remediation will be provided in post-job-report). Re-pressure test to 1000 and 3500 psi for 15 minutes each and to 9000 psi for 30 minutes.**
- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- **Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.**
- **If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing - over flush stage by 5 bbls (from top perf)**
- **TIGHT SPACING ON STAGE 2- OVERFLUSH BY 5 BBLs**
- **Max Sand Concentration; Blackhawk 1.5 ppg**
- **Well has possible gas migration in-between the Surface 9-5/8" and Production 4-1/2". Perform remediation after frac job has finished**

#### **PROCEDURE:**

1. Monitor current gas flow and/or pressure building up on the surface casing to establish a buildup rate.
2. NU and test BOPs. RIH 3 7/8" mill and clean out to PBTD @ ~11744' if possible, or to 11619' at a minimum. Circulate hole clean with recycled water. POOH. Run CBL (if needed).
3. ND BOPs and NU frac valves. Test frac valves and casing to 1000 and 3500 psi for 15 minutes each and to **9000 psi** for 30 minutes; if pressure test fails contact Denver engineer and see notes. As per standard operating procedure install steel blowdown line to reserve pit from 4-1/2" X 9-5/8" annulus. Lock **OPEN** the Braden head valve. Annulus will be monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
4. Perf the following with 3-3/8" gun, 23 gm, 0.36"hole:
 

Zone	From	To	spf	# of shots
LOWER MESAVERDE	11476	11477	3	3
LOWER MESAVERDE	11485	11487	3	6
LOWER MESAVERDE	11500	11502	3	6
LOWER MESAVERDE	11514	11516	3	6
LOWER MESAVERDE	11530	11531	3	3
LOWER MESAVERDE	11588	11589	3	3
5. Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~11476' and trickle 250gal 15%HCL w/ scale inhibitor in flush.  
**NOTE: STAGE 1 SHOULD BE ALL 30/50 TLC SAND**
6. **Set 10,000 psi CBP** psi CBP at ~11,423'. Perf the following 3-3/8" gun, 23 gm, 0.36"hole:

Zone	From	To	spf	# of shots
LOWER MESAVERDE	11266	11267	3	3
LOWER MESAVERDE	11282	11283	3	3
LOWER MESAVERDE	11300	11301	3	3
LOWER MESAVERDE	11311	11312	3	3
LOWER MESAVERDE	11318	11319	3	3
LOWER MESAVERDE	11334	11335	3	3
LOWER MESAVERDE	11367	11368	3	3
LOWER MESAVERDE	11382	11383	3	3

7. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~11266' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

**NOTE: STAGE 2 SHOULD BE ALL 30/50 TLC SAND**

8. **Set 10,000 psi CBP** at ~11,256'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
LOWER MESAVERDE	11198	11200	3	6
LOWER MESAVERDE	11210	11212	3	6
LOWER MESAVERDE	11223	11225	3	6
LOWER MESAVERDE	11234	11236	3	6

9. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 3 on attached listing. Under-displace to ~11198' flush only with recycled water.

**NOTE: STAGE 3 SHOULD BE ALL 30/50 TLC SAND**

10. Set 8000 psi CBP at ~11,148'.

11. Call for tubing. ND Frac Valves , NU and Test BOPs. Pressure test casing to 1000 and 3500 psi for 15 minutes each.

12. RIH and perf the following 3-3/8" gun, 23 gm, 0.36" hole:

From	To	spf	# of shots
2940	2941	6	6

**\*\* Location picked off CBL; See Attached on pages 9-11**

13. Establish injection rate into perforations

14. Monitor annulus between surface casing and 4-1/2" casing for communication. Based on communication results; perform desired cement squeeze.

15. RIH set CICR at ~**2920'**.

16. R/U cement company and pump recommended cement job into perforations from **2940-2941'**, based off injection rate and pressure. PUH w/stinger and cap with CICR with cement. Reverse circulate clean. WOC for a minimum 12 hours prior to drill out.

17. POOH. TIH with 3 7/8" bit, and tubing. D-O CICR and cement to ~**2960'**. Pressure test casing and perforations to 1000 psi for 10 minutes. Also verify that there is no gas flow or pressure building up on the surface casing. Contact engineer if there is a test failure.

18. RIH and set **20'** Weatherford casing patch over existing cement squeeze perforations from 2940-2941'.
19. Pressure test casing patches and casing to 1000, 2500, and 3500 psi for 15 minutes each. RDMO
20. TIH with 3-1/4" bit, pump off sub, SN and tubing. Drill plugs and clean out to PBTD. Shear off bit and land tubing at **±11236'** unless indicated otherwise by the well's behavior.
21. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.
22. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

**For design questions, please call  
Zachary Garrity, Denver, CO  
(720) 929-6180 (Office)  
(406) 781-6427 (Cell)**

**For field implementation questions, please call  
Jeff Samuels, Vernal, UT  
(435) 781-7046 (Office)**

**NOTES:**

**TIGHT SPACING ON STAGE 2– OVERFLUSH BY 5 BBLS**

**Verify that the Braden head valve is locked OPEN.**

**Max Sand Concentration; Blackhawk 1.5 ppg**

**Well has possible gas migration in-between the Surface 9-5/8" and Production 4-1/2". Perform remediation after frac job has finished**





### Slickwater Frac

Y
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Scale Inhibitor	845	gals pumped per schedule above		
Biocide	407	gals @	0.5	GPT

NBU 921-18D3DS DIRECTIONAL SURVEY												
MD	TVD	EW	NS	INC	AZI		MD	TVD	EW	NS	INC	AZI
0	0	0.0	0.0	0.0	0.0		6000	5846	-968.3	-310.6	0.2	242.6
100	100	0.0	0.0	0.0	17.2		6100	5946	-968.9	-311.1	0.6	224.2
200	200	0.0	0.1	0.1	17.2		6200	6046	-969.7	-312.1	0.8	209.2
300	300	-0.6	-0.2	1.1	241.1		6300	6146	-970.3	-313.5	0.9	199.3
400	400	-4.1	-1.5	3.1	253.5		6400	6246	-970.8	-315.0	1.0	201.5
500	500	-10.7	-3.2	4.8	256.2		6500	6346	-971.4	-316.6	1.1	199.3
600	599	-20.4	-5.6	6.8	254.8		6600	6446	-971.8	-318.4	1.1	186.0
700	698	-33.2	-9.6	8.5	252.1		6700	6546	-972.1	-320.3	1.1	187.6
800	797	-48.7	-14.6	10.3	252.0		6800	6646	-972.3	-322.2	1.1	184.8
900	895	-67.0	-20.5	11.8	252.5		6900	6746	-972.3	-323.6	0.6	168.9
1000	993	-87.9	-26.9	13.5	253.7		7000	6846	-971.8	-324.6	0.7	147.8
1100	1090	-111.4	-33.7	14.9	253.4		7100	6946	-971.0	-325.6	0.6	140.7
1200	1186	-137.1	-41.8	16.4	251.4		7200	7046	-970.9	-325.8	0.4	340.3
1300	1282	-164.7	-51.5	17.5	250.2		7300	7146	-971.3	-324.2	1.4	350.3
1400	1377	-193.5	-61.7	18.1	251.0		7400	7246	-971.6	-321.3	1.7	357.1
1500	1471	-223.9	-71.9	19.1	251.4		7500	7346	-971.6	-318.6	1.4	0.2
1600	1566	-255.0	-82.6	19.4	251.3		7600	7446	-971.6	-316.6	1.0	4.4
1700	1660	-286.9	-92.8	19.5	254.2		7700	7546	-971.4	-314.9	0.9	9.2
1800	1754	-319.7	-101.0	20.4	256.9		7800	7646	-971.1	-313.5	0.9	13.5
1900	1848	-354.6	-109.4	21.6	255.7		7900	7746	-970.7	-312.2	0.6	16.5
2000	1940	-391.1	-119.1	22.8	254.7		8000	7846	-970.5	-311.6	0.3	29.8
2100	2033	-427.8	-129.1	21.7	255.3		8100	7946	-970.2	-311.3	0.2	63.5
2200	2125	-463.8	-138.5	21.9	255.3		8200	8046	-970.0	-311.4	0.2	153.8
2300	2219	-499.2	-147.7	20.7	255.5		8300	8146	-969.9	-311.7	0.2	179.1
2400	2313	-531.1	-156.3	18.3	254.2		8400	8246	-969.8	-312.1	0.3	154.0
2500	2408	-560.3	-166.0	17.5	248.7		8500	8346	-969.6	-312.8	0.6	166.0
2600	2503	-588.3	-177.8	18.1	247.6		8600	8446	-969.2	-314.1	0.9	160.9
2700	2598	-617.8	-189.4	18.9	249.4		8700	8546	-968.7	-315.5	0.9	164.4
2800	2693	-648.2	-200.8	18.7	248.3		8800	8646	-968.2	-317.2	1.2	161.7
2900	2788	-676.7	-212.8	17.3	246.2		8900	8746	-967.3	-319.3	1.4	155.3
3000	2883	-704.2	-224.4	17.4	247.9		9000	8846	-966.6	-321.6	1.4	166.1
3100	2979	-732.3	-235.8	18.0	248.5		9100	8946	-966.0	-323.9	1.1	168.0
3200	3073	-761.8	-246.7	18.6	251.3		9200	9045	-965.8	-324.8	0.2	60.5
3300	3168	-792.8	-255.3	18.8	257.6		9300	9145	-965.2	-323.6	1.0	20.4
3400	3263	-824.1	-260.5	18.0	261.6		9400	9245	-964.7	-321.9	0.9	14.9
3500	3359	-853.3	-265.5	16.6	259.6		9500	9345	-964.3	-320.9	0.4	30.7
3600	3455	-880.4	-270.4	15.2	260.8		9600	9445	-964.0	-320.6	0.1	87.3
3700	3552	-904.7	-273.9	13.1	261.5		9700	9545	-963.7	-320.8	0.4	136.6
3800	3649	-925.1	-277.3	10.7	259.6		9800	9645	-963.1	-321.2	0.4	66.7
3900	3748	-941.3	-280.4	8.3	258.8		9900	9745	-962.7	-320.5	0.4	352.7
4000	3847	-953.7	-283.0	6.6	256.7		10000	9845	-962.9	-319.9	0.2	4.1
4100	3947	-963.6	-285.8	5.2	251.4		10100	9945	-962.7	-319.7	0.2	59.6
4200	4046	-970.6	-288.6	3.4	244.7		10200	10045	-962.4	-319.8	0.3	140.6
4300	4146	-974.4	-290.7	1.5	234.7		10300	10145	-961.7	-320.5	0.8	133.5
4400	4246	-975.5	-291.8	0.5	201.3		10400	10245	-961.0	-321.6	0.7	161.3
4500	4346	-975.6	-292.7	0.6	192.0		10500	10345	-960.9	-322.8	0.8	184.6
4600	4446	-975.8	-293.9	0.8	184.8		10600	10445	-961.1	-324.7	1.3	191.7
4700	4546	-976.1	-295.4	1.0	194.5		10700	10545	-962.1	-327.2	1.7	202.8
4800	4646	-976.5	-297.3	1.3	187.6		10800	10645	-963.0	-330.3	2.0	193.7
4900	4746	-976.1	-298.9	0.8	137.5		10900	10745	-963.8	-333.8	2.1	190.8
5000	4846	-975.2	-300.0	1.0	150.5		11000	10845	-964.4	-337.4	2.1	187.9
5100	4946	-974.2	-302.6	2.1	157.6		11100	10945	-964.8	-341.0	2.1	184.5
5200	5046	-972.3	-305.8	2.2	147.3		11200	11045	-964.9	-344.7	2.2	181.5
5300	5146	-970.3	-309.1	2.1	148.5		11300	11145	-965.1	-348.6	2.3	183.7
5400	5246	-968.4	-312.0	1.8	145.7		11400	11245	-965.3	-352.7	2.3	178.7
5500	5346	-966.9	-314.1	0.8	134.4		11500	11345	-965.1	-356.8	2.4	177.1
5600	5446	-966.6	-313.7	0.7	358.2		11600	11445	-964.8	-360.9	2.3	174.0
5700	5546	-966.8	-312.3	0.8	341.9		11700	11545	-964.4	-364.9	2.2	178.8
5800	5646	-967.4	-311.3	0.6	316.4		11799	11644	-964.5	-368.9	2.4	182.1
5900	5746	-968.1	-310.7	0.3	315.4							

**Schlumberger**

Company: KERR-MCGEE OIL &amp; GAS ONSHORE LP

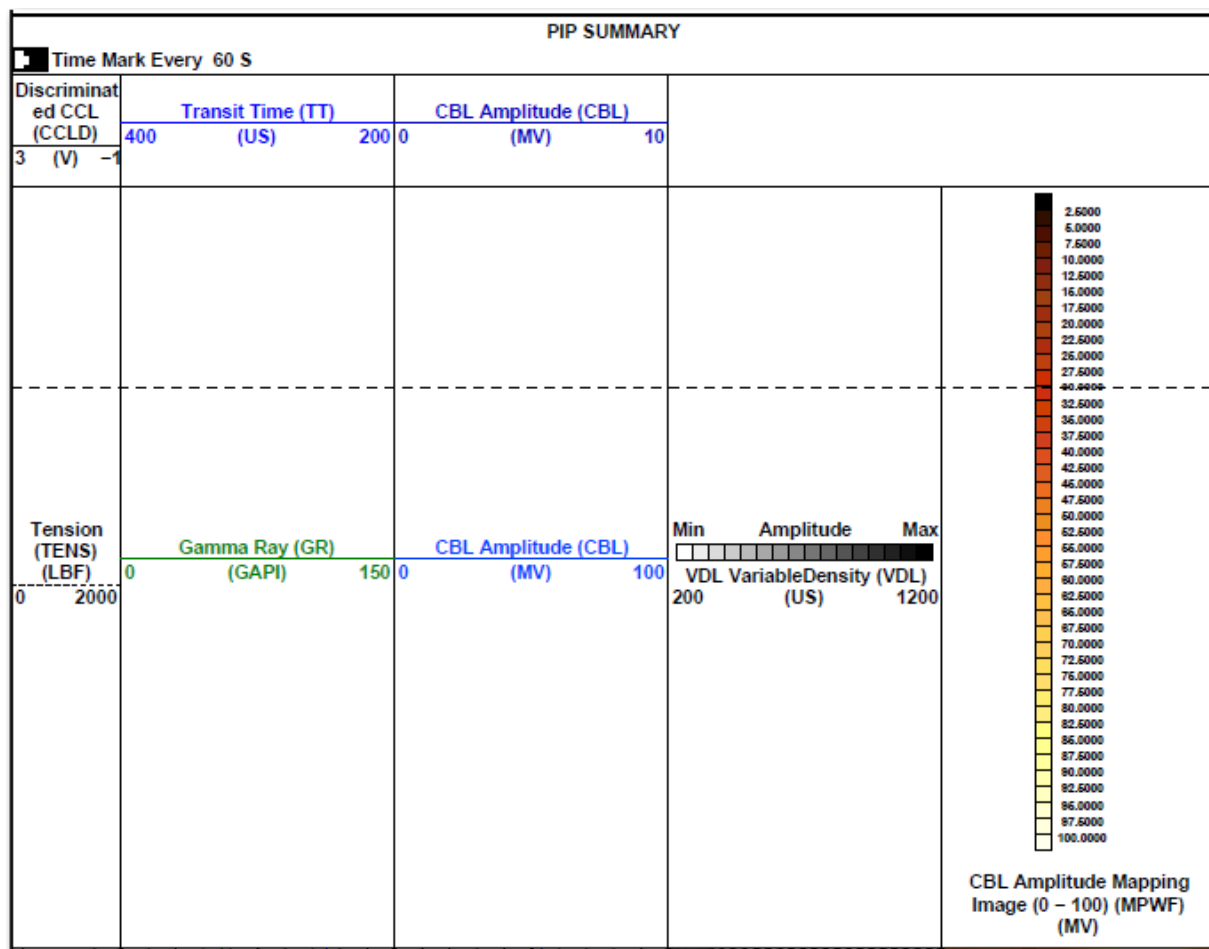
Well: NBU 921-18D3DS

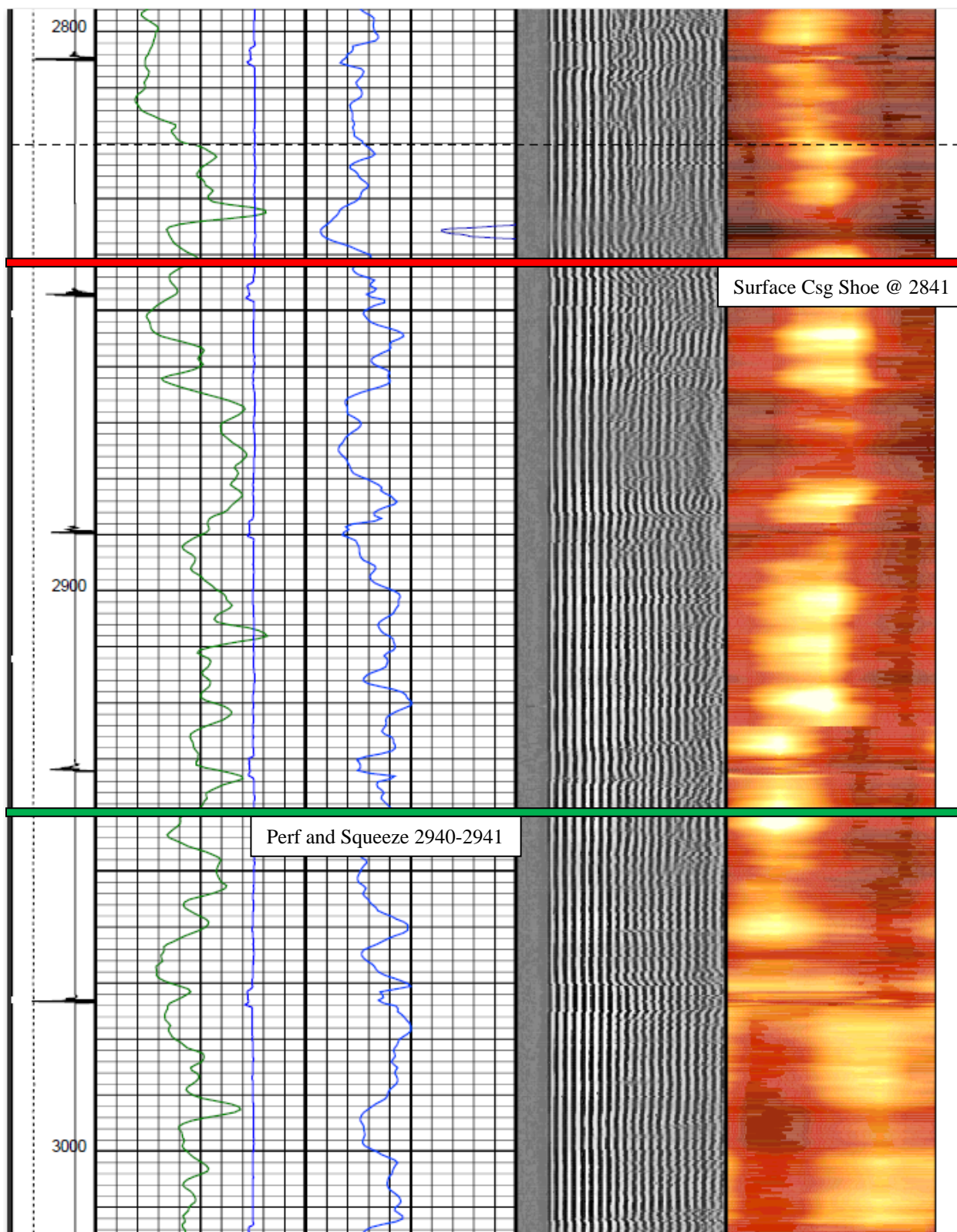
Field: GREATER NATURAL BUTTES

County: UTAH State: UTAH

CEMENT BOND LOG  
CEMENT MAP IMAGE  
GAMMA RAY - CCLSHL: 888' FNL & 1788' FWL  
BHL: 1200' FNL & 830' FWLElev.: K.B. 4730.00 ft  
G.L. 4711.00 ft  
D.F. 4731.00 ftPermanent Datum: \_\_\_\_\_ GROUND LEVEL \_\_\_\_\_ Elev.: 4711.00 ft  
Log Measured From: KELLY BUSHING \_\_\_\_\_ above Perm. Datum  
Drilling Measured From: KELLY BUSHING \_\_\_\_\_

County:	UINTAH						
Field:	GREATER NATURAL BUTTES						
Location:	SHL: 888' FNL & 1788' FWL						
Well:	NBU 921-18D3DS						
Company:	KERR-MCGEE OIL & GAS ONS						
Logging Date	11-Nov-2011	Section:	18	Township:	9S	Range:	21E
Run Number	1	API Serial No.	43047505350000				
Depth Driller	11775 ft						
Schlumberger Depth	11664 ft						
Bottom Log Interval	11656 ft						
Top Log Interval	1100 ft						
Casing Fluid Type	FRESH WATER						
Salinity							
Density	8.4 lbm/gal						
Fluid Level	19 ft						
BTT/CASING/TUBING STRING							
Bit Size	7.875 in						
From	19 ft						
To	11775 ft						
Casing/Tubing Size	4.500 in						
Weight	11.6 lbm/ft						
Grade							
From	19 ft						
To	11775 ft						
Maximum Recorded Temperatures	231 degF						
Logger On Bottom	11-Nov-2011						
Unit Number	410	VERNAL					
Recorded By	WILLIAM LAUBENDER						
Witnessed By	UNATTENDED						







<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000			
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 12/16/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <span style="border: 1px solid black; padding: 2px;">Cement Remediation</span> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; padding: 2px;">Cement Remediation</span>
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; padding: 2px;">Cement Remediation</span>			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> The operator requests approval for the attached well procedure. The subject well will be fracture stimulated and followed by remedial cement squeezes. This well has been identified as requiring remediation and is currently being monitored and handled by our bradenhead best management practices. Thank you.					
<b>Accepted by the Utah Division of Oil, Gas and Mining</b>		<b>Date:</b> 12/20/2011 <b>By:</b>			
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 12/16/2011					

# Greater Natural Buttes Unit



**NBU 921-18D3DS**

**COMPLETIONS PROCEDURE AND CEMENT SQUEEZE**

**DATE:12/2/11**

**AFE#:2028727**

**API#:4304750535**

**USER ID:OOT937** (Frac Invoices Only)

**COMPLETIONS ENGINEER:** Zachary Garrity, Denver, CO  
(720) 929-6180 (Office)  
(406) 781-6427 (Cell)

**SIGNATURE:**

**ENGINEERING MANAGER: JEFF DUFRESNE**

**SIGNATURE:**

**REMEMBER SAFETY FIRST!**

**RECEIVED** Dec. 16, 2011



**Name:** NBU 921-18D3DS  
**Location:** SE SW NW NW Sec 18 T9S R21E  
**LAT:** 40.040890 **LONG:** -109.599474 **COORDINATE:** NAD83 (*Surface Location*)  
**Uintah County, UT**  
**Date:** 12/2/11

**ELEVATIONS:** 4711' GL 4730' KB *Frac Registry TVD: 11644'*

**TOTAL DEPTH:** 11799' **PBTD:** 11744'  
**SURFACE CASING:** 9 5/8", 36# J-55 LT&C @ 2841'  
**PRODUCTION CASING:** 4 1/2", 11.6#, P-110 BT&C @ 11790'  
 Marker Joint **5310-5331; 8460-8481; and 11150-11171'**

**TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl/ft)	(gal/ft)
2 3/8" 4.7# J-55 tbg	7,700	8,100	1.901"	0.00387	0.1624
4 1/2" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
4 1/2" 11.6# P-110	10691	7580	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

**TOPS:**

1796' Green River Top  
 2071' Bird's Nest Top  
 2586' Mahogany Top  
 5282' Wasatch Top  
 8440' Mesaverde Top

**BOTTOMS:**

8440' Wasatch Bottom  
 11799' Mesaverde Bottom (TD)

**T.O.C. @ 4690' Schlumberger CBL - 11/11/11**

**GENERAL:**

- A minimum of **44** tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Schlumberger's RST log dated 11/11/11.
  - **Please note that the perfs were picked on the RST after they had been correlated to the openhole log. Perfs will be approx. 15ft shallower when you shoot/correlate them to the RST.**
    - **Ex: Perf Letter has 11,476-11,477 → Correlated GR and shoot at approx. 11,461-11,462**
- 3 fracturing stages required for coverage.
- Procedure calls for 3 CBP's (**1-8,000 and 2-10,000** psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- Pump scale inhibitor as per design

- 30/50 mesh **TLC** sand, **Slickwater frac.**
- Maximum surface pressure **9000 psi.**
- **If casing pressure test fails. MIRU with tubing and packer. Isolate leak by pressure testing above and below the packer. RIH and set appropriate casing leak remediation (specific details on remediation will be provided in post-job-report). Re-pressure test to 1000 and 3500 psi for 15 minutes each and to 9000 psi for 30 minutes.**
- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- **Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.**
- **If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing - over flush stage by 5 bbls (from top perf)**
- **TIGHT SPACING ON STAGE 2- OVERFLUSH BY 5 BBLs**
- **Max Sand Concentration; Blackhawk 1.5 ppg**
- **Well has possible gas migration in-between the Surface 9-5/8" and Production 4-1/2". Perform remediation after frac job has finished**

#### **PROCEDURE:**

1. Monitor current gas flow and/or pressure building up on the surface casing to establish a buildup rate.
2. NU and test BOPs. RIH 3 7/8" mill and clean out to PBTD @ ~11744' if possible, or to 11619' at a minimum. Circulate hole clean with recycled water. POOH. Run CBL (if needed).
3. ND BOPs and NU frac valves. Test frac valves and casing to 1000 and 3500 psi for 15 minutes each and to **9000 psi** for 30 minutes; if pressure test fails contact Denver engineer and see notes. As per standard operating procedure install steel blowdown line to reserve pit from 4-1/2" X 9-5/8" annulus. Lock **OPEN** the Braden head valve. Annulus will be monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
4. Perf the following with 3-3/8" gun, 23 gm, 0.36"hole:
 

Zone	From	To	spf	# of shots
LOWER MESAVERDE	11476	11477	3	3
LOWER MESAVERDE	11485	11487	3	6
LOWER MESAVERDE	11500	11502	3	6
LOWER MESAVERDE	11514	11516	3	6
LOWER MESAVERDE	11530	11531	3	3
LOWER MESAVERDE	11588	11589	3	3
5. Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~11476' and trickle 250gal 15%HCL w/ scale inhibitor in flush.  
**NOTE: STAGE 1 SHOULD BE ALL 30/50 TLC SAND**
6. **Set 10,000 psi CBP** psi CBP at ~11,423'. Perf the following 3-3/8" gun, 23 gm, 0.36"hole:

Zone	From	To	spf	# of shots
LOWER MESAVERDE	11266	11267	3	3
LOWER MESAVERDE	11282	11283	3	3
LOWER MESAVERDE	11300	11301	3	3
LOWER MESAVERDE	11311	11312	3	3
LOWER MESAVERDE	11318	11319	3	3
LOWER MESAVERDE	11334	11335	3	3
LOWER MESAVERDE	11367	11368	3	3
LOWER MESAVERDE	11382	11383	3	3

7. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~11266' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

**NOTE: STAGE 2 SHOULD BE ALL 30/50 TLC SAND**

8. **Set 10,000 psi CBP** at ~11,256'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
LOWER MESAVERDE	11198	11200	3	6
LOWER MESAVERDE	11210	11212	3	6
LOWER MESAVERDE	11223	11225	3	6
LOWER MESAVERDE	11234	11236	3	6

9. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 3 on attached listing. Under-displace to ~11198' flush only with recycled water.

**NOTE: STAGE 3 SHOULD BE ALL 30/50 TLC SAND**

10. Set 8000 psi CBP at ~11,148'.

11. Call for tubing. ND Frac Valves , NU and Test BOPs. Pressure test casing to 1000 and 3500 psi for 15 minutes each.

12. RIH and perf the following 3-3/8" gun, 23 gm, 0.36" hole:

From	To	spf	# of shots
2940	2941	6	6

**\*\* Location picked off CBL; See Attached on pages 9-11**

13. Establish injection rate into perforations

14. Monitor annulus between surface casing and 4-1/2" casing for communication. Based on communication results; perform desired cement squeeze.

15. RIH set CICR at ~**2920'**.

16. R/U cement company and pump recommended cement job into perforations from **2940-2941'**, based off injection rate and pressure. PUH w/stinger and cap with CICR with cement. Reverse circulate clean. WOC for a minimum 12 hours prior to drill out.

17. POOH. TIH with 3 7/8" bit, and tubing. D-O CICR and cement to ~**2960'**. Pressure test casing and perforations to 1000 psi for 10 minutes. Also verify that there is no gas flow or pressure building up on the surface casing. Contact engineer if there is a test failure.

18. RIH and set **20'** Weatherford casing patch over existing cement squeeze perforations from 2940-2941'.
19. Pressure test casing patches and casing to 1000, 2500, and 3500 psi for 15 minutes each. RDMO
20. TIH with 3-1/4" bit, pump off sub, SN and tubing. Drill plugs and clean out to PBTD. Shear off bit and land tubing at **±11236'** unless indicated otherwise by the well's behavior.
21. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.
22. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

**For design questions, please call  
Zachary Garrity, Denver, CO  
(720) 929-6180 (Office)  
(406) 781-6427 (Cell)**

**For field implementation questions, please call  
Jeff Samuels, Vernal, UT  
(435) 781-7046 (Office)**

**NOTES:**

**TIGHT SPACING ON STAGE 2– OVERFLUSH BY 5 BBLS**

**Verify that the Braden head valve is locked OPEN.**

**Max Sand Concentration; Blackhawk 1.5 ppg**

**Well has possible gas migration in-between the Surface 9-5/8" and Production 4-1/2". Perform remediation after frac job has finished**



## Fracturing Schedules

Name NBU 921-18D3DS

Slickwater Frac

Copy to new book

Recomplete?

N

Pad?

Y

ACTS?

Y

Swabbing Days

0 Enter Number of swabbing days here for reCompletes

Production Log

0 Enter 1 if running a Production Log

DFIT

0 Enter Number of DFITs

Stage	Zone	Perfs		SPF	Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	Fluid % of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal.
		Top, ft	Bot, ft																	
1	LOWER MESAVERDE	11476	11477	3	3	Varied	Pump-in test			Slickwater		0	0	0						
	LOWER MESAVERDE	11485	11487	3	6	0	ISIP and 5 min ISIP													37
	LOWER MESAVERDE	11500	11502	3	6	50	Slickwater Pad			Slickwater	60,420	60,420	1,439	1,439	30.0%	0.0%	0	0		91
	LOWER MESAVERDE	11514	11516	3	6	50	Slickwater Ramp	0.25	0.94	Slickwater	70,490	130,910	1,678	3,117	35.0%	34.2%	41,853	41,853		106
	LOWER MESAVERDE	11530	11531	3	3	50	SW Sweep	0	0	Slickwater	0	130,910	0	3,117	0.0%	0.0%	0	41,853		0
	LOWER MESAVERDE	11588	11589	3	3	50	Slickwater Ramp	0.94	1.13	Slickwater	50,350	181,260	1,199	4,316	25.0%	42.4%	51,923	93,777		0
	LOWER MESAVERDE					50	SW Sweep	0	0	Slickwater	10,500	191,760	250	4,566	0.0%	0.0%	0	93,777		0
	LOWER MESAVERDE					50	Slickwater Ramp	0.38	1.13	Slickwater	3,000	194,760	71	4,637	1.8%	1.8%	2,250	96,027		0
	LOWER MESAVERDE					50	Slickwater Ramp	1.13	1.5	Slickwater	20,140	214,900	480	5,117	10.0%	21.6%	26,434	122,461		0
	LOWER MESAVERDE					50	Flush (4-1/2)				7,492	222,392	178	5,295				122,461		37
	LOWER MESAVERDE						ISDP and 5 min ISDP													271
	LOWER MESAVERDE									Sand laden Volume		201,400								
	# of Perfs/stage			27										Flush depth	11476		5,300	3,223	lbs sand/ft	
	# of Perfs/stage			27		86.3	<< Above pump time (min)										CBP depth	11,423	53	
2	LOWER MESAVERDE	11266	11267	3	3	Varied	Pump-in test			Slickwater		0	0	0						
	LOWER MESAVERDE	11282	11283	3	3	0	ISIP and 5 min ISIP													
	LOWER MESAVERDE	11300	11301	3	3	50	Slickwater Pad			Slickwater	104,940	104,940	2,499	2,499	30.0%	0.0%	0	0		157
	LOWER MESAVERDE	11311	11312	3	3	50	Slickwater Ramp	0.25	0.94	Slickwater	122,430	227,370	2,915	5,414	35.0%	35.8%	72,693	72,693		184
	LOWER MESAVERDE	11318	11319	3	3	50	SW Sweep	0	0	Slickwater	5,250	232,620	125	5,539	0.0%	0.0%	0	72,693		0
	LOWER MESAVERDE	11334	11335	3	3	50	Slickwater Ramp	0.75	1.13	Slickwater	87,450	320,070	2,082	7,621	25.0%	40.4%	81,984	154,677		0
	LOWER MESAVERDE	11367	11368	3	3	50	SW Sweep	0	0	Slickwater	10,500	330,570	250	7,871	0.0%	0.0%	0	154,677		0
	LOWER MESAVERDE	11382	11383	3	3	50	Slickwater Ramp	0.38	1.13	Slickwater	3,000	333,570	71	7,942	1.1%	1.1%	2,250	156,927		0
	LOWER MESAVERDE					50	Slickwater Ramp	1.13	1.5	Slickwater	34,980	368,550	833	8,775	10.0%	22.6%	45,911	202,838		0
	LOWER MESAVERDE					50	Flush (4-1/2)				7,354	375,904	175	8,950				202,838		37
	LOWER MESAVERDE						ISDP and 5 min ISDP													378
	LOWER MESAVERDE									Sand laden Volume		349,800								
	# of Perfs/stage			24										Flush depth	11266		5,300	3,073	lbs sand/ft	
	# of Perfs/stage			24		152.4	<< Above pump time (min)										CBP depth	11,256	10	
3	LOWER MESAVERDE	11198	11200	3	6	Varied	Pump-in test			Slickwater		0	0	0						
	LOWER MESAVERDE	11210	11212	3	6	0	ISIP and 5 min ISIP													
	LOWER MESAVERDE	11223	11225	3	6	50	Slickwater Pad			Slickwater	60,420	60,420	1,439	1,439	30.0%	0.0%	0	0		91
	LOWER MESAVERDE	11234	11236	3	6	50	Slickwater Ramp	0.25	0.94	Slickwater	70,490	130,910	1,678	3,117	35.0%	34.2%	41,853	41,853		106
	LOWER MESAVERDE					50	SW Sweep	0	0	Slickwater	0	130,910	0	3,117	0.0%	0.0%	0	41,853		0
	LOWER MESAVERDE					50	Slickwater Ramp	0.94	1.13	Slickwater	50,350	181,260	1,199	4,316	25.0%	42.4%	51,923	93,777		0
	LOWER MESAVERDE					50	SW Sweep	0	0	Slickwater	10,500	191,760	250	4,566	0.0%	0.0%	0	93,777		0
	LOWER MESAVERDE					50	Slickwater Ramp	0.38	1.13	Slickwater	3,000	194,760	71	4,637	1.8%	1.8%	2,250	96,027		0
	LOWER MESAVERDE					50	Slickwater Ramp	1.13	1.5	Slickwater	20,140	214,900	480	5,117	10.0%	21.6%	26,434	122,461		0
	LOWER MESAVERDE					50	Flush (4-1/2)				7,310	222,210	174	5,291				122,461		196
	LOWER MESAVERDE						ISDP and 5 min ISDP													
	LOWER MESAVERDE									Sand laden Volume		201,400								
	# of Perfs/stage			24										Flush depth	11198		5,300	3,223	lbs sand/ft	
	# of Perfs/stage			24		86.3	<< Above pump time (min)										CBP depth	11,148	50	
Totals					75						Total Fluid	820,506	gals	19,536	bbls		Total Sand	447,760		
						5.4						19,536	bbls		43.4	tanks		Total Scale Inhib. =	845	

Total Stages 3 stages  
Last Stage Flush 7,310 gals

## Service Company Supplied Chemicals - Job Totals

Friction Reducer	407	gals @	0.5	GPT
Surfactant	813	gals @	1.0	GPT
Clay Stabilizer	813	gals @	1.0	GPT
15% Hcl	750	gals @	250	gal/stg
Iron Control for acid	4	gals @	5.0	GPT of acid
Surfactant for acid	1	gals @	1.0	GPT of acid
Corrosion Inhibitor for acid	2	gals @	2.0	GPT of acid

## Third Party Supplied Chemicals Job Totals - Include Pumping Charge if Applicable

Scale Inhibitor	845	gals pumped per schedule above	
Biocide	407	gals @	0.5 GPT

RECEIVED Dec. 16, 2011

NBU 921-18D3DS DIRECTIONAL SURVEY												
MD	TVD	EW	NS	INC	AZI		MD	TVD	EW	NS	INC	AZI
0	0	0.0	0.0	0.0	0.0		6000	5846	-968.3	-310.6	0.2	242.6
100	100	0.0	0.0	0.0	17.2		6100	5946	-968.9	-311.1	0.6	224.2
200	200	0.0	0.1	0.1	17.2		6200	6046	-969.7	-312.1	0.8	209.2
300	300	-0.6	-0.2	1.1	241.1		6300	6146	-970.3	-313.5	0.9	199.3
400	400	-4.1	-1.5	3.1	253.5		6400	6246	-970.8	-315.0	1.0	201.5
500	500	-10.7	-3.2	4.8	256.2		6500	6346	-971.4	-316.6	1.1	199.3
600	599	-20.4	-5.6	6.8	254.8		6600	6446	-971.8	-318.4	1.1	186.0
700	698	-33.2	-9.6	8.5	252.1		6700	6546	-972.1	-320.3	1.1	187.6
800	797	-48.7	-14.6	10.3	252.0		6800	6646	-972.3	-322.2	1.1	184.8
900	895	-67.0	-20.5	11.8	252.5		6900	6746	-972.3	-323.6	0.6	168.9
1000	993	-87.9	-26.9	13.5	253.7		7000	6846	-971.8	-324.6	0.7	147.8
1100	1090	-111.4	-33.7	14.9	253.4		7100	6946	-971.0	-325.6	0.6	140.7
1200	1186	-137.1	-41.8	16.4	251.4		7200	7046	-970.9	-325.8	0.4	340.3
1300	1282	-164.7	-51.5	17.5	250.2		7300	7146	-971.3	-324.2	1.4	350.3
1400	1377	-193.5	-61.7	18.1	251.0		7400	7246	-971.6	-321.3	1.7	357.1
1500	1471	-223.9	-71.9	19.1	251.4		7500	7346	-971.6	-318.6	1.4	0.2
1600	1566	-255.0	-82.6	19.4	251.3		7600	7446	-971.6	-316.6	1.0	4.4
1700	1660	-286.9	-92.8	19.5	254.2		7700	7546	-971.4	-314.9	0.9	9.2
1800	1754	-319.7	-101.0	20.4	256.9		7800	7646	-971.1	-313.5	0.9	13.5
1900	1848	-354.6	-109.4	21.6	255.7		7900	7746	-970.7	-312.2	0.6	16.5
2000	1940	-391.1	-119.1	22.8	254.7		8000	7846	-970.5	-311.6	0.3	29.8
2100	2033	-427.8	-129.1	21.7	255.3		8100	7946	-970.2	-311.3	0.2	63.5
2200	2125	-463.8	-138.5	21.9	255.3		8200	8046	-970.0	-311.4	0.2	153.8
2300	2219	-499.2	-147.7	20.7	255.5		8300	8146	-969.9	-311.7	0.2	179.1
2400	2313	-531.1	-156.3	18.3	254.2		8400	8246	-969.8	-312.1	0.3	154.0
2500	2408	-560.3	-166.0	17.5	248.7		8500	8346	-969.6	-312.8	0.6	166.0
2600	2503	-588.3	-177.8	18.1	247.6		8600	8446	-969.2	-314.1	0.9	160.9
2700	2598	-617.8	-189.4	18.9	249.4		8700	8546	-968.7	-315.5	0.9	164.4
2800	2693	-648.2	-200.8	18.7	248.3		8800	8646	-968.2	-317.2	1.2	161.7
2900	2788	-676.7	-212.8	17.3	246.2		8900	8746	-967.3	-319.3	1.4	155.3
3000	2883	-704.2	-224.4	17.4	247.9		9000	8846	-966.6	-321.6	1.4	166.1
3100	2979	-732.3	-235.8	18.0	248.5		9100	8946	-966.0	-323.9	1.1	168.0
3200	3073	-761.8	-246.7	18.6	251.3		9200	9045	-965.8	-324.8	0.2	60.5
3300	3168	-792.8	-255.3	18.8	257.6		9300	9145	-965.2	-323.6	1.0	20.4
3400	3263	-824.1	-260.5	18.0	261.6		9400	9245	-964.7	-321.9	0.9	14.9
3500	3359	-853.3	-265.5	16.6	259.6		9500	9345	-964.3	-320.9	0.4	30.7
3600	3455	-880.4	-270.4	15.2	260.8		9600	9445	-964.0	-320.6	0.1	87.3
3700	3552	-904.7	-273.9	13.1	261.5		9700	9545	-963.7	-320.8	0.4	136.6
3800	3649	-925.1	-277.3	10.7	259.6		9800	9645	-963.1	-321.2	0.4	66.7
3900	3748	-941.3	-280.4	8.3	258.8		9900	9745	-962.7	-320.5	0.4	352.7
4000	3847	-953.7	-283.0	6.6	256.7		10000	9845	-962.9	-319.9	0.2	4.1
4100	3947	-963.6	-285.8	5.2	251.4		10100	9945	-962.7	-319.7	0.2	59.6
4200	4046	-970.6	-288.6	3.4	244.7		10200	10045	-962.4	-319.8	0.3	140.6
4300	4146	-974.4	-290.7	1.5	234.7		10300	10145	-961.7	-320.5	0.8	133.5
4400	4246	-975.5	-291.8	0.5	201.3		10400	10245	-961.0	-321.6	0.7	161.3
4500	4346	-975.6	-292.7	0.6	192.0		10500	10345	-960.9	-322.8	0.8	184.6
4600	4446	-975.8	-293.9	0.8	184.8		10600	10445	-961.1	-324.7	1.3	191.7
4700	4546	-976.1	-295.4	1.0	194.5		10700	10545	-962.1	-327.2	1.7	202.8
4800	4646	-976.5	-297.3	1.3	187.6		10800	10645	-963.0	-330.3	2.0	193.7
4900	4746	-976.1	-298.9	0.8	137.5		10900	10745	-963.8	-333.8	2.1	190.8
5000	4846	-975.2	-300.0	1.0	150.5		11000	10845	-964.4	-337.4	2.1	187.9
5100	4946	-974.2	-302.6	2.1	157.6		11100	10945	-964.8	-341.0	2.1	184.5
5200	5046	-972.3	-305.8	2.2	147.3		11200	11045	-964.9	-344.7	2.2	181.5
5300	5146	-970.3	-309.1	2.1	148.5		11300	11145	-965.1	-348.6	2.3	183.7
5400	5246	-968.4	-312.0	1.8	145.7		11400	11245	-965.3	-352.7	2.3	178.7
5500	5346	-966.9	-314.1	0.8	134.4		11500	11345	-965.1	-356.8	2.4	177.1
5600	5446	-966.6	-313.7	0.7	358.2		11600	11445	-964.8	-360.9	2.3	174.0
5700	5546	-966.8	-312.3	0.8	341.9		11700	11545	-964.4	-364.9	2.2	178.8
5800	5646	-967.4	-311.3	0.6	316.4		11799	11644	-964.5	-368.9	2.4	182.1
5900	5746	-968.1	-310.7	0.3	315.4							



**Schlumberger**

Company: KERR-MCGEE OIL &amp; GAS ONSHORE LP

Well: NBU 921-18D3DS

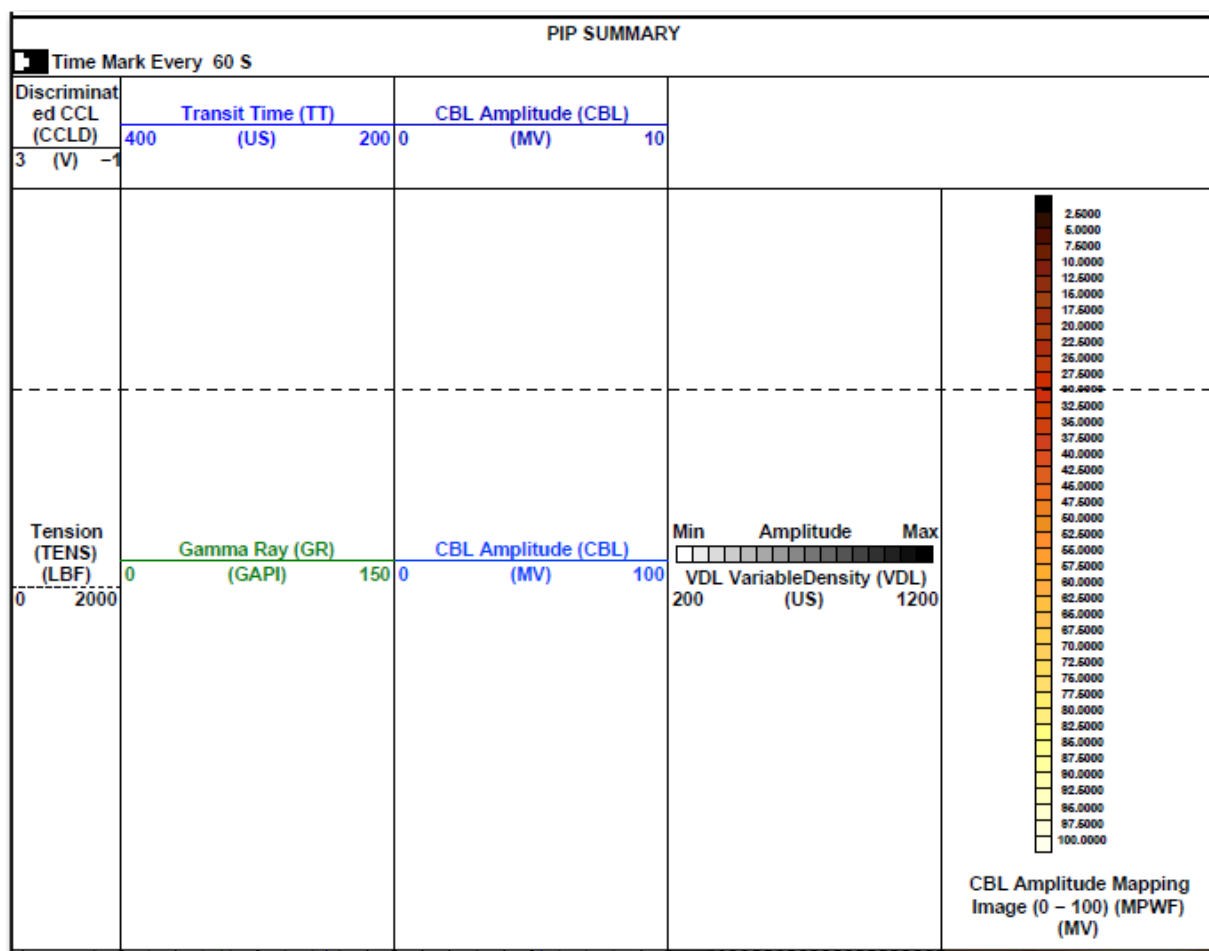
Field: GREATER NATURAL BUTTES

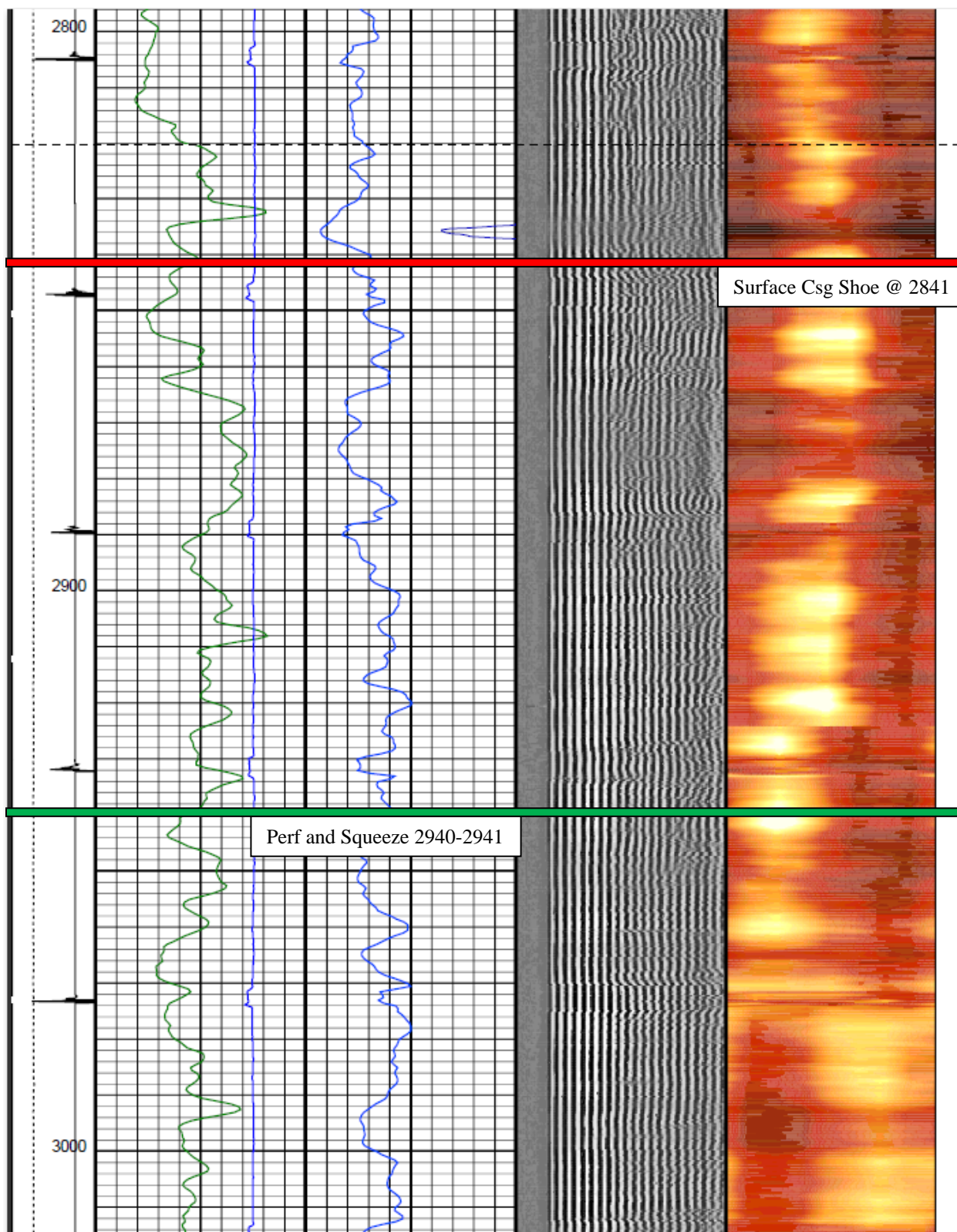
County: UTAH State: UTAH

CEMENT BOND LOG  
CEMENT MAP IMAGE  
GAMMA RAY - CCLSHL: 888' FNL & 1788' FWL  
BHL: 1200' FNL & 830' FWLElev.: K.B. 4730.00 ft  
G.L. 4711.00 ft  
D.F. 4731.00 ftPermanent Datum: \_\_\_\_\_ GROUND LEVEL \_\_\_\_\_ Elev.: 4711.00 ft  
Log Measured From: KELLY BUSHING \_\_\_\_\_ above Perm. Datum  
Drilling Measured From: KELLY BUSHING \_\_\_\_\_

County:	UINTAH				
Field:	GREATER NATURAL BUTTES				
Location:	SHL: 888' FNL & 1788' FWL				
Well:	NBU 921-18D3DS				
Company:	KERR-MCGEE OIL & GAS ONS				
Logging Date	11-Nov-2011	Run Number	1	API Serial No.	43047505350000
Depth Driller	11775 ft	Section:	18	Township:	9S
Schlumberger Depth	11664 ft	Range:	21E		
Bottom Log Interval	11656 ft				
Top Log Interval	1100 ft				
Casing Fluid Type	FRESH WATER				
Salinity					
Density	8.4 lbm/gal				
Fluid Level	19 ft				
BTT/CASING/TUBING STRING					
Bit Size	7.875 in				
From	19 ft				
To	11775 ft				
Casing/Tubing Size	4.500 in				
Weight	11.6 lbm/ft				
Grade					
From	19 ft				
To	11775 ft				
Maximum Recorded Temperatures	231 degF				
Logger On Bottom	11-Nov-2011	Time	9:05		
Unit Number	410	Location	VERNAL		
Recorded By	WILLIAM LAUBENDER				
Witnessed By	UNATTENDED				







<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 4/5/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 THE SUBJECT WELL WAS PLACED ON PRODUCTION ON APRIL 5, 2012 AT 1:00 A.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
**FOR RECORD ONLY**  
 April 13, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/9/2012	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other		5. Lease Serial No. UTU0581	
b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____		6. If Indian, Allottee or Tribe Name	
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE		7. Unit or CA Agreement Name and No. UTU63047A	
Contact: CARA MAHLER Email: cara.mahler@anadarko.com		8. Lease Name and Well No. NBU 921-18D3DS	
3. Address 1099 18TH STREET, SUITE 1800 DENVER, CO 80202		9. API Well No. 43-047-50535	
3a. Phone No. (include area code) Ph: 720-929-6029			
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface NWNW 888FNL 1788FWL 40.040890 N Lat, 109.599475 W Lon At top prod interval reported below NWNW 1231FNL 823FWL At total depth NWNW Lot 1 1257FNL 823FWL <i>BHL by HSM</i>		10. Field and Pool, or Exploratory NATURAL BUTTES	
14. Date Spudded 06/23/2011		11. Sec., T., R., M., or Block and Survey or Area Sec 18 T9S R21E Mer SLB	
15. Date T.D. Reached 10/27/2011		12. County or Parish UINTAH	
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 04/05/2012		13. State UT	
17. Elevations (DF, KB, RT, GL)* 4711 GL			
18. Total Depth: MD 11799 TVD 11644		19. Plug Back T.D.: MD 11746 TVD 11591	
20. Depth Bridge Plug Set: MD TVD			
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) HDIL/ZDL/CNCR-CBL/CM/GR/CCL-RSL/SM/GR/CCL-SYNCOMB		22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis)	

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
12.250	9.625 J-55	36.0	0	2841		650		0	
7.875	3.500 P-110	13.0	0	4810		70		466	
7.875	4.500 P-110	11.6	0	11790		2326		250	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	11198	11589	11198 TO 11589	0.360	75	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
11198 TO 11589	PUMP 19,578 BBLs SLICK H2O & 450,479 LBS 30/50 OTTAWA SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
04/05/2012	04/07/2012	24	→	0.0	4376.0	1330.0			FLows FROM WELL
Choke Size 18/64	Tbg. Press. Flwg. 3717 SI	Csg. Press. 3825.0	24 Hr. Rate →	Oil BBL 0	Gas MCF 4376	Water BBL 1330	Gas:Oil Ratio	Well Status PGW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #139916 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

RECEIVED

JUN 12 2012

DIV. OF OIL, GAS & MINING

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1796
				BIRD'S NEST	2071
				MAHOGANY	2586
				WASATCH	5282
				MESAVERDE	8440

## 32. Additional remarks (include plugging procedure):

Attached is the chronological well history, perforation report & final survey.  
Did a cement squeeze from 2855-56' and 2940-41'. A 3.5" casing liner was run from 0 to 4810'; details in completion chrono attached.

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7 Other:      |                       |

## 34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #139916 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal

Name (please print) CARA MAHLERTitle AUTHORIZED REPRESENTATIVESignature (Electronic Submission)Date 06/06/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud Date: 7/14/2011	
Project: UTAH-UINTAH		Site: NBU 921-18D PAD			Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING		Start Date: 6/11/2011		End Date: 10/29/2011	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)			UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/13/2011	21:00 - 0:00	3.00	MIRU	01	C	P		MIRU
7/14/2011	0:00 - 7:00	7.00	MIRU	01	B	P		MIRU /// INSTALL DIVERter HEAD AND BOWIE LINE. BUILD DITCH. MOVE RIG OVER HOLE AND RIG UP. SET CATWALK AND PIPE RACKS. RIG UP AND PRIME PIT PUMP AND MUD PUMP.
	7:00 - 8:30	1.50	DRLSUR	02	B	P		SPUD 12.25" SURFACE HOLE F/ 40'-T/ 210' /// ROP= 180' @ 120 FPH /// WOB=14-16K /// RPM= 50/95 /// SPP= 850/600 /// GPM=550
	8:30 - 11:30	3.00	DRLSUR	06	A	P		TOOH, PU DIR TOOLS & SCRIBE, TIH
	11:30 - 18:00	6.50	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 210'-T/ 880' /// ROP= 670' @ 103 FPH /// WOB= 16-20K /// RPM= 50/95 /// SPP=1300/1000 /// GPM = 550 /// NO GAIN / LOSSES
	18:00 - 0:00	6.00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 880'-T/ 1330' /// ROP= 450' @ 75 FPH /// WOB= 16-20K /// RPM= 50/95 /// SPP=1300/1000 /// GPM = 550 /// NO GAIN / LOSSES
7/15/2011	0:00 - 5:00	5.00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 1330'-T/ 1630' /// ROP= 300' @ 60 FPH /// WOB= 16-20K /// RPM= 50/95 /// SPP=1400/1180 /// GPM = 550 /// NO GAIN / LOSSES
	5:00 - 12:00	7.00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 1630'-T/ 2050' /// ROP= 420' @ 60 FPH /// WOB= 16-20K /// RPM= 50/95 /// SPP=1900/1500 /// GPM = 550 /// NO GAIN / LOSSES
	12:00 - 18:00	6.00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 2050'-T/ 2350' /// ROP= 300' @ 50 FPH /// WOB= 16-20K /// RPM= 50/95 /// SPP=2000/1700 /// GPM = 550 /// NO GAIN / LOSSES
	18:00 - 0:00	6.00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 2350'-T/ 2560' /// ROP= 210' @ 35 FPH /// WOB= 16-20K /// RPM= 50/95 /// SPP=1800/1650 /// GPM = 550 /// NO GAIN / LOSSES

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud Date: 7/14/2011	
Project: UTAH-UINTAH		Site: NBU 921-18D PAD			Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING		Start Date: 6/11/2011		End Date: 10/29/2011	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)			UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/16/2011	-		RDMO					<p>CONDUCTOR CASING:</p> <p>Cond. Depth set: 40</p> <p>Cement sx used: 28</p> <p>SPUD DATE/TIME: 7/14/2011 7:00</p> <p>SURFACE HOLE:</p> <p>Surface From depth: 40</p> <p>Surface To depth: 2,855</p> <p>Total SURFACE hours: 44.5</p> <p>Surface Casing size: 9-5/8"</p> <p># of casing joints ran: 64</p> <p>Casing set MD: 2,825.0</p> <p># sx of cement: 250/225/175</p> <p>Cement blend (ppg): 11.0/15.8/15.8</p> <p>Cement yield (ft3/sk): 3.82/1.15/1.15</p> <p># of bbls to surface: 40</p> <p>Describe cement issues: NONE</p> <p>Describe hole issues: NONE</p>
	0:00 - 6:30	6.50	DRLSUR	02	D	P		<p>DIR DRLG 12.25" SURFACE HOLE F/ 2560'-T/ 2855'</p> <p>/// ROP= 295' @ 45 FPH /// WOB= 16-20K /// RPM= 50/95 /// SPP=1800/1650 /// GPM = 550 /// NO GAIN</p> <p>/ LOSSES /// LAST SURVEY @ 2800'= 18.60 DEG &amp; 247.97 AZ /// 5' BELOW &amp; 2' LEFT OF LINE</p>
	6:30 - 8:30	2.00	DRLSUR	05	A	P		CIRC & COND HOLE FOR 9-5/8" SURFACE CSG
	8:30 - 12:30	4.00	DRLSUR	06	A	P		LDOS & DIR TOOLS
	12:30 - 13:30	1.00	CSG	12	A	P		RIG UP CSG TOOLS, MOVE CSG BY RIG
	13:30 - 16:00	2.50	CSG	12	C	P		PJSM /// RUN 64 JT'S, 9-5/8", 36#, J-55,LT&C CSG //
	16:00 - 17:00	1.00	CSG	08	A	Z		SHOE SET @ 2825' & BAFFLE @ 2779'
	17:00 - 18:00	1.00	CSG	12	C	P		BLEW SEAL ON HOISTING RAM /// REPLACE SEAL & PURGE HYDRAULIC SYSTEM
	18:00 - 21:00	3.00	CSG	05	D	P		FINISH RUNNING CSG
	21:00 - 22:00	1.00	CSG	01	E	P		WASH LAST 60' TO BOTTOM & CIRC HOLE
	22:00 - 23:30	1.50	CSG	12	E	P		RUN 200' OF 1" DN BACK SIDE /// RIG CARRIER DN & MOVE OFF WELL
	23:30 - 0:00	0.50	RDMO	01	E	P		PJSM /// TEST LINES TO 2000 PSI /// PUMP 10 BBL'S WATER AHEAD /// PUMP 20 BBL GEL WATER SPACER /// LEAD=250 sx CLASS G CMT @ 11.0 WT & 3.82 YIELD /// TAIL= 225sx CLASS G CMT @ 15.8 WT & 1.15 YIELD /// DROP PLUG & DISPLACE W/ 214 BBL'S WATER /// PLUG DN @ 23:14
10/19/2011	0:00 - 1:00	1.00	DRLPRO	01	C	P		07/16/2011 /// BUMP PLUG W/ 1200 PSI /// FINAL LIFT = 630 PSI /// FULL CIRC THRU OUT JOB /// 40 BBL'S CMT TO SURFACE /// CHECK FLOATS- HELD W/ 1.5 BBL'S BACK /// PUMP 1" TOP OUT W/ 175sx CMT @ 15.8 WT & 1.15 YIELD
	1:00 - 2:00	1.00	DRLPRO	14	A	P		RIG DN /// RELEASE RIG @ 00:00 7/17/2011 TO THE BONANZA 1023-18K3AS
	2:00 - 6:00	4.00	DRLPRO	15	A	P		SKID RIG 20' TO THE NBU 921-18D3DS, LEVEL & CENTER RIG
								N/U BOPE
								TEST BOPE, RAMS & ALL VALVES 250 LOW, 5000 HIGH, ANN 2500, CASING 1500 F/ 15 MIN, STRATA 250-3000

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 6/11/2011	End Date: 10/29/2011	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 6:30	0.50	DRLPRO	14	B	P		INSTALL WEAR BUSHING, PRE-SPUD INSPECTION
	6:30 - 8:00	1.50	DRLPRO	06	A	P		P/U BIT #1, MM, DIR TOOLS & SCRIBE, TIH TO TOP OF CEMENT @ 2741, INSTALL ROT RUBBER
	8:00 - 9:00	1.00	DRLPRO	02	F	P		DRLG CEMENT, F/E & OPEN HOLE TO 2870, SHOE @ 2844, FLOAT @ 2798
	9:00 - 16:00	7.00	DRLPRO	02	D	P		DRLG F/ 2870 TO 3713', 843' @ 120.4' PH WOB / 18-20, RPM 50- 60 SPM 200 - GPM 586 MW 9.0 , VIS 36 NOV ON- CONVENTIONAL TRQ ON/OFF = 6-4 K PSI ON /OFF = 1800-1400 , DIFF 150-500 PU/SO/RT = 130-90- SLIDE = 155' IN 2.16 HRS = 71.6' PH ROT = 688' IN 4.84 HRS = 142.1' PH STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 51' N & 57.62 WOF TARGET CENTER 1.95 LOW & 5.82 RIGHT OF LINE
	16:00 - 16:30	0.50	DRLPRO	07	A	P		SERVICE RIG, F/T ANN & HCR, BOP DRLG 85 SEC
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRLG F/ 3713' TO 4380', 667' @ 88.9' PH WOB / 18-20, RPM 50- 60 SPM 200 - GPM 586 MW 9.0 , VIS 36 NOV ON- CONVENTIONAL TRQ ON/OFF = 9-7 K PSI ON /OFF = 2000-1600 , DIFF 150-500 PU/SO/RT =150-100-125 SLIDE = 113' IN 2.91 HRS = 38.8' PH ROT = 554' IN 4.59 HRS = 120.7' PH STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 25.26 W & 27.4 N OF TARGET CENTER
10/20/2011	0:00 - 16:30	16.50	DRLPRO	02	D	P		DRLG F/ 4380' TO 6181', 1801' @ 109.2' PH WOB / 18-20, RPM 50- 60 SPM 200 - GPM 586 MW 9.1 , VIS 38 NOV ON- CONVENTIONAL TRQ ON/OFF = 10-8 K PSI ON /OFF = 2300-2000 , DIFF 150-500 PU/SO/RT =175-110-140 SLIDE =137' IN 2.5 HRS = 54.8' PH ROT = 1527' IN 14 HRS = 109' PH STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 7.35 N & 20.15 W OF TARGET CENTER
	16:30 - 17:00	0.50	DRLPRO	07	A	P		SERVICE RIG, F/T ANN & HCR, BOP DRLG 71 SEC



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 6/11/2011	End Date: 10/29/2011	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRLG F/ 6181' TO 6820', 639' @ 91.3' PH WOB / 20-22, RPM 50- 60 SPM 200 - GPM 586 MW 9.3 , VIS 42 NOV ON- CONVENTIONAL TRQ ON/OFF = 10-8 K PSI ON /OFF = 2300-2000 , DIFF 150-500 PU/SO/RT = 197-114-141 SLIDE = ROT = 100% STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 20.7 W OF TARGET CENTER
10/21/2011	0:00 - 15:00	15.00	DRLPRO	02	D	P		DRLG F/ 6820' TO 7508', 688' @ 45.8' PH WOB / 20-22, RPM 50- 60 SPM 200 - GPM 586 MW 9.3 , VIS 42 NOV ON- CONVENTIONAL, DE-WATER F/ 2 CIRC TRQ ON/OFF = 10-8 K PSI ON /OFF = 2300-2000 , DIFF 150-500 PU/SO/RT = 220-190-135 SLIDE = 81' IN 3.41 HRS = 23.8' PH ROT = 607' IN 11.59 HRS = 52.4' PH STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 4.5 N & 20.36 W OF TARGET CENTER
	15:00 - 15:30	0.50	DRLPRO	07	A	P		SERVICE RIG, F/T ANN & HCR, BOP DRLG 72 SEC, CHECK RIG F/ LEVEL, OK
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRLG F/ 7508' TO 7795', 287' @ 33.8' PH WOB / 22-24, RPM 50- 60 SPM 200 - GPM 586 MW 9.4 , VIS 42 NOV ON- CONVENTIONAL, DE-WATER F/ 4-CIRC TRQ ON/OFF = 12-10 K PSI ON /OFF = 2500-2150 , DIFF 150-500 PU/SO/RT = SLIDE = ROT =100% STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 11.3 N & 19.7 W OF TARGET CENTER
10/22/2011	0:00 - 15:30	15.50	DRLPRO	02	D	P		DRLG F/ 7795' TO 8362', 567' @ 36.6' PH WOB / 22-24, RPM 50- 60 SPM 200 - GPM 586 MW 9.4 , VIS 42 NOV ON- CONVENTIONAL, DE-WATER F/ 4-CIRC TRQ ON/OFF = 14-12 K PSI ON /OFF = 2500-2150 , DIFF 150-500 PU/SO/RT = 225-135-170 SLIDE = ROT =100% STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 12.55 N & 18.4 W OF TARGET CENTER
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SERVICE RIG

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 6/11/2011	End Date: 10/29/2011	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWM: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRLG F/ 8362' TO 8835', 473' @ 59.1' PH WOB / 22-24, RPM 50- 60 SPM 200 - GPM 586 MW 9.4 , VIS 42 NOV ON- CONVENTIONAL, DE-WATER F/ 4-CIRC TRQ ON/OFF = 15-13 K PSI ON /OFF = 2600-2250 , DIFF 150-500 PU/SO/RT = 225-135-170 SLIDE = ROT =100%
10/23/2011	0:00 - 15:00	15.00	DRLPRO	02	D	P		STRATA OFF LINE 0 CONN FLARE, 0 B/G FLARE 3.22 N & 18.4 W OF TARGET CENTER DRLG F/ 8835' TO 9501', 666' @ 44.4' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 9.4 , VIS 42 NOV ON- CONVENTIONAL TRQ ON/OFF = 15-13 K PSI ON /OFF = 2700-2400 , DIFF 150-500 PU/SO/RT = 250-140-180 SLIDE = 55' IN 2.83 HRS = 19.4' PH ROT = 611' IN 12.17 HRS = 50.2' PH STRATA ON LINE @ 8975' AP DRLG 120, CONN 250 20 CONN FLARE, 10 B/G FLARE 3.73 N & 12.84 W OF TARGET CENTER
	15:00 - 15:30	0.50	DRLPRO	07	A	P		SERVICE RIG, F/T PIPE RAMS & HCR
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRLG F/ 9501' TO 9895', 394' @ 46.4' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 9.4 , VIS 42 NOV ON- CONVENTIONAL TRQ ON/OFF = 18-16 K PSI ON /OFF = 3200-2800 , DIFF 150-500 PU/SO/RT = 250-155-185 SLIDE = 43' IN 2 HRS = 21.5 ROT = 351' IN 6.5 HRS = 54' PH STRATA ON LINE @ 8975' AP DRLG 140, CONN 250 20 CONN FLARE, 10 B/G FLARE 3.86 N & 11.53 W OF TARGET CENTER
10/24/2011	0:00 - 16:00	16.00	DRLPRO	02	D	P		DRLG F/ 9895' TO 10,545', 650' @ 40.6' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 9.6 , VIS 42 NOV ON- CONVENTIONAL TRQ ON/OFF = 18-16 K PSI ON /OFF = 3200-2800 , DIFF 150-500 PU/SO/RT = 275-140-195 SLIDE = ROT = 100 % STRATA ON LINE @ 8975' AP DRLG 140, CONN 250 20 CONN FLARE, 10 B/G FLARE 3.05 N & 10' W OF TARGET CENTER

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud Date: 7/14/2011	
Project: UTAH-UINTAH		Site: NBU 921-18D PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54	
Event: DRILLING		Start Date: 6/11/2011		End Date: 10/29/2011	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/25/2011	16:00 - 16:30	0.50	DRLPRO	07	A	P		SERVICE RIG
	16:30 - 22:30	6.00	DRLPRO	02	D	P		DRLG F/ 10,545' TO 10,728', 183' @ 30.5' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 9.6 , VIS 42 NOV ON- CONVENTIONAL TRQ ON/OFF = 18-16 K PSI ON /OFF = 3200-2800 , DIFF 150-500 PU/SO/RT = 275-140-195 SLIDE = ROT = 100 % STRATA ON LINE @ 8975' AP DRLG 140, CONN 250 20 CONN FLARE, 10 B/G FLARE 3.05 N & 10' W OF TARGET CENTER DISPLACE MUD W/ 11.3 PPG
	22:30 - 0:00	1.50	DRLPRO	05	G	P		DISPLACE HOLE W/ 11.3 PPG MUD F/ BIT TRIP
	0:00 - 0:30	0.50	DRLPRO	05	G	P		POOH, BACKREAM TIGHT HOLE F/ 5200 TO 4200, P/U BIT #2 & MM, TIH TO SHOE
	0:30 - 8:30	8.00	DRLPRO	06	A	P		CUT & SLIP , F/T CROWN-O-MATIC
	8:30 - 9:30	1.00	DRLPRO	09	A	P		TIH TO 5600'
	9:30 - 11:30	2.00	DRLPRO	06	A	P		WASH & REAM F/ 5600 TO 8700' ( WASATCH )
	11:30 - 18:00	6.50	DRLPRO	03	A	P		TIH
	18:00 - 19:30	1.50	DRLPRO	06	A	P		WASH & REAM 95' TO BOTTOM
	19:30 - 20:00	0.50	DRLPRO	03	D	P		DRLG F/ 10,728' TO 10870', 142' @ 35.5' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 11.5 , VIS 42 NOV ON- CONVENTIONAL TRQ ON/OFF = 18-16 K PSI ON /OFF = 3200-2800 , DIFF 150-500 PU/SO/RT = 275-155-205 SLIDE = ROT = 100 % STRATA ON LINE @ 8975' 20 CONN FLARE, 10 B/G FLARE 12.32 W & 8.65 S OF TARGET CENTER
	20:00 - 0:00	4.00	DRLPRO	02	D	P		DRLG F/ 10,870' TO 11,208', 662' @ 42.7' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 11.5 , VIS 42 NOV OFF LINE TRQ ON/OFF = 18-16 K PSI ON /OFF = 3200-2800 , DIFF 150-500 PU/SO/RT = 275-155-205 SLIDE = ROT = 100 % STRATA ON LINE @ 8975' 20 CONN FLARE, 10 B/G FLARE 19.92 W & 19.21 S OF TARGET CENTER
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SERVICE RIG

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54
Event: DRILLING	Start Date: 6/11/2011	End Date: 10/29/2011	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRLG F/ 11,208' TO 11,440', 232' @ 29' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 11.5 , VIS 42 NOV OFF LINE TRQ ON/OFF = 18-16 K PSI ON /OFF = 3200-2800 , DIFF 150-500 PU/SO/RT = 280-160-207 SLIDE = ROT = 100 % STRATA ON LINE @ 8975' 20 CONN FLARE, 10 B/G FLARE 33' S and 12.5' W OF TARGET
10/27/2011	0:00 - 8:00	8.00	DRLPRO	02	D	P		DRLG F/ 11,440' TO 11,799', 359' @ 44.8' PH WOB / 23-25, RPM 50- 60 SPM 200 - GPM 586 MW 12.4 , VIS 49 NOV OFF LINE TRQ ON/OFF = 18-16 K PSI ON /OFF = 3200-2800 , DIFF 150-500 PU/SO/RT = 270-165-210 SLIDE = ROT = 100 % STRATA OFF LINE 0' CONN FLARE, 0' B/G FLARE 45' S and 13' W OF TARGET CENTER CIRC AND COND MUD FOR WIPER TRIP
	8:00 - 10:30	2.50	DRLPRO	05	C	P		POOH, WIPER TRIP TO SHOE
	10:30 - 15:30	5.00	DRLPRO	06	E	P		SERVICE RIG
	15:30 - 16:00	0.50	DRLPRO	07	A	P		TIH, WIPER TRIP
	16:00 - 19:30	3.50	DRLPRO	06	E	P		WASHING AND REAMING 300' TO BTM
	19:30 - 20:00	0.50	DRLPRO	06	E	P		CIRC AND COND MUD FOR POOH SIDEWAYS
	20:00 - 22:00	2.00	DRLPRO	05	C	P		SAFTEY MEETING W/ KIMSEY, PUMPED OUT 10 STNDS
	22:00 - 0:00	2.00	DRLPRO	06	A	P		POOH F/ LOGS, PUMP PILL, POOH, L/D DIR TOOLS, MM & BIT
10/28/2011	0:00 - 8:30	8.50	DRLPRO	06	B	P		PULL WEAR BUSHING
	8:30 - 9:00	0.50	DRLPRO	14	B	P		HPJSM W/ RIG & BAKER LOGGING, R/U & RUN TO 6848', BRIDGE OUT & LOG OUT, R/D
	9:00 - 14:30	5.50	DRLPRO	11	D	P		RUN PROD CASING 4.5" P-110, BTC, 281 JTS
	14:30 - 22:30	8.00	DRLPRO	12	C	P		SHOE @ 11,789' FLOAT @ 11,745' B/H MARKER @ 11,193' MESA MARKER @ 8,505' WASATCH MARKER @ 5356'
	22:30 - 0:00	1.50	DRLPRO	05	D	P		CIRC OUT GAS TO CEMENT
10/29/2011	0:00 - 4:00	4.00	DRLPRO	12	E	P		HPJSM W/ RIG & BJ CEMENTERS, PSI TEST LINES TO 5420, PUMP 5 BBLS WATER, 20 SKS SCAV 11.4 PPG, 2.69 YLD, LEAD 766 SKS 12.4 PPG 2.69 YLD, TAIL 1560 SKS 14.3 PPG, 1.31 YLD, DROP PLUG & DISPLACE W/ 182 BBLS CLAYCARE WATER, FULL RETURNS THOUGHOUT JOB, W/ 36 BBLS TO PIT
	4:00 - 4:30	0.50	DRLPRO	14	B	P		SET C-22 SLIPS W/ 120K

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud Date: 7/14/2011				
Project: UTAH-UINTAH		Site: NBU 921-18D PAD		Rig Name No: PROPETRO 12/12, PIONEER 54/54				
Event: DRILLING		Start Date: 6/11/2011		End Date: 10/29/2011				
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:30 - 6:00	1.50	DRLPRO	14	A	P		N/D, P/U STACK & MAKE ROUGH CUT, PREPARE RIG F/ RIG MOVE, RELEASE RIG TO THE NBU 921-19L @ 06:00 10/29/11

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-18D3DS GREEN	Wellbore No.	OH
Well Name	NBU 921-18D3DS	Wellbore Name	NBU 921-18D3DS
Report No.	1	Report Date	1/6/2012
Project	UTAH-UINTAH	Site	NBU 921-18D PAD
Rig Name/No.		Event	COMPLETION
Start Date	12/16/2011	End Date	
Spud Date	7/14/2011	Active Datum	RKB @4,730.00usft (above Mean Sea Level)
UWI	NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0		

### 1.3 General

Contractor	CHS	Job Method		Supervisor	BRAD BURMAN
Perforated Assembly	SURFACE CASING	Conveyed Method			

### 1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	2,855.0 (usft)-2,941.0 (usft)	Start Date/Time	1/6/2012 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	2	End Date/Time	1/9/2012 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	12	Net Perforation Interval	2.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	6.00 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

### 1.5 Summary

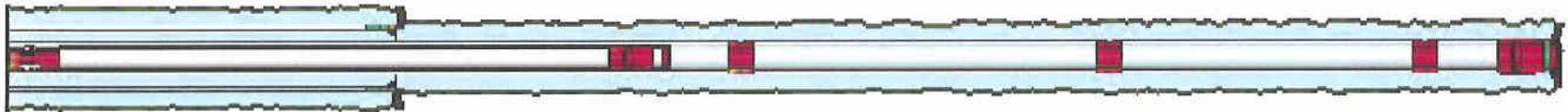
## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/9/2012 12:00AM	GREEN RIVER/			2,855.0	2,856.0	6.00		0.360	EXP/	3.000	90.00		23.00	CEMENT SQUEEZE	

**2.1 Perforated Interval (Continued)**

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/6/2012 12:00AM	GREEN RIVER/			2,940.0	2,941.0	6.00		0.360	EXP/	3.000	90.00		23.00	CEMENT SQUEEZE	

**3 Plots****3.1 Wellbore Schematic**

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-18D3DS GREEN	Wellbore No.	OH
Well Name	NBU 921-18D3DS	Wellbore Name	NBU 921-18D3DS
Report No.	2	Report Date	1/7/2012
Project	UTAH-UINTAH	Site	NBU 921-18D PAD
Rig Name/No.		Event	COMPLETION
Start Date	12/16/2011	End Date	
Spud Date	7/14/2011	Active Datum	RKB @4,730.01ft (above Mean Sea Level)
UWI	NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0		

### 1.3 General

Contractor	CHS	Job Method		Supervisor	BRAD BURMAN
Perforated Assembly		Conveyed Method			

### 1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	11,198.0 (ft)-11,589.0 (ft)	Start Date/Time	12/27/2011 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	18	End Date/Time	12/27/2011 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	75	Net Perforation Interval	25.00 (ft)
Hydrostatic Press		Press Difference		Avg Shot Density	3.00 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

### 1.5 Summary

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/27/2011 12:00AM	MESAVERDE/ 1			11,198.0	11,200.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	



## 2.1 Perforated Interval (Continued)

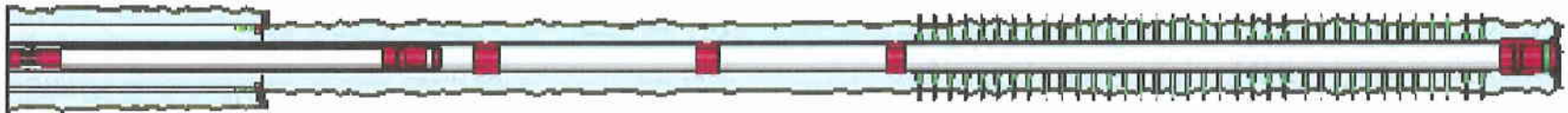
Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/27/2011 12:00AM	MESAVERDE/			11,210.0	11,212.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,223.0	11,225.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,234.0	11,236.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,266.0	11,267.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,282.0	11,283.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,300.0	11,301.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,311.0	11,312.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,318.0	11,319.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,334.0	11,335.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,367.0	11,368.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,382.0	11,383.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,476.0	11,477.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,485.0	11,487.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,500.0	11,502.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/27/2011 12:00AM	MESAVERDE/			11,514.0	11,516.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,530.0	11,531.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/2011 12:00AM	MESAVERDE/			11,588.0	11,589.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 3 Plots

## 3.1 Wellbore Schematic



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 12/16/2011	End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/16/2011	11:30 - 13:30	2.00	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 19 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 31 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 97 PSI. NO COMMUNICATION WITH SURFACE CSG WELL HAS MIGRATION FROM SURFACE BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFW
12/27/2011	8:00 - 12:00	4.00	COMP	37	B	P		HSM, REVIEW JSA RIGGINGN UP MIRU 1ST SHOOT LOWER MESAVERDE, USING 3-1/8 EXPEND, 23 GRM, 0.23" HOLE, AS PERSAY IN PROCEDURE.
12/28/2011	7:00 - 12:00	5.00	COMP	46	E	Z		WAITING ON BLENDER
	12:00 - 13:30	1.50	COMP	33		P		HSM, HIGH PRESSURE LINES / PREEURE TEST SURFACE LINES TO 9,500#, SET POP OFF @=8,800#
12/29/2011	6:15 - 6:30	0.25	COMP	48		P		HSM, REVIEW FRAC
	6:30 - 17:00	10.50	COMP	36	B	P		PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ TLC MESH SAND IN ALL STGS & SLK WTR. ALL CBP'S ARE HALIBURTON 8K CBP'S. REFER TO STIM PJR FOR FLIUD, SAND AND CHEMICL VOLUME PUM'D
								FRAC STG #1] WHP=1,080#, BRK DN PERFS=4,722#, @=4.9 BPM, INJ RT=50.2, INJ PSI=7,350#, INITIAL ISIP=3,795#, INITIAL FG=.77, FINAL ISIP=3,922#, FINAL FG=.78, AVERAGE RATE=46, AVERAGE PRESSURE=7,285#, MAX RATE=51.1, MAX PRESSURE=8,384#, NET PRESSURE INCREASE=127#, 22/27 81% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=11,423', PERF LOWER MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN
12/30/2011	7:00 - 7:15	0.25	COMP	48		P		HSM, STAYING ALERT DURING LONG FRACS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 12/16/2011	End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 7:15	0.00	COMP	36	B	P		<p>FRAC STG #2] WHP=3,060#, BRK DN PERFS=4,676#, @=4.7 BPM, INJ RT=51.6, INJ PSI=7,607#, INITIAL ISIP=3,649#, INITIAL FG=.76, FINAL ISIP=3,870#, FINAL FG=.78, AVERAGE RATE=51.6, AVERAGE PRESSURE=7,448#, MAX RATE=52.8, MAX PRESSURE=8,364#, NET PRESSURE INCREASE=221#, 20/24 84% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @=11,256', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #3] WHP=3,700#, BRK DN PERFS=6,022#, @=4.7 BPM, INJ RT=49.8, INJ PSI=7,650#, INITIAL ISIP=4,177#, INITIAL FG=.81, FINAL ISIP=3,993#, FINAL FG=.79, AVERAGE RATE=50.1, AVERAGE PRESSURE=7,637#, MAX RATE=51.3, MAX PRESSURE=6,613#, NET PRESSURE INCREASE=-182#, 22/24 90% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=11,148'</p> <p>TOTAL FLUID PUMP'D=19,578 BBLS TOTAL SAND PUMP'D=450,479# HSM, WORKING W/ WIRELINE</p>
1/6/2012	7:00 - 7:30	0.50	COMP	48		P		

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 12/16/2011	End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 17:00	9.50	COMP	37	A	P		<p>NDWH, NUBOP, R/U WIRELINE .</p> <p>MIRU CHS. P/U 3 1/8" EXPENDABLE GUNS, .23 GRAM .036" HOLE, 90 DEG PHASING, 6 SPF. RIH SHOOT PERFS @ 2940' - 2941' .</p> <p>BREAKDOWN PERFS @ 1300 PSI @ 2 BBLS MIN PUMPED 10 BBLS @ 1100 PSI @ 2 BBLS MIN, ISIP 700 PSI. NO FLOW TO SURFACE.</p> <p>RIH &amp; SET CCR @ 2920'. RDMO CHS.</p> <p>P/U STINGER, RIH W/ 90 JTS L-80 TBG, STING INTO CCR.</p> <p>MIRU, PRO PETRO. P.T. SURFACE LINES TO 3000#. HOLD 500# ON BACKSIDE. PUMP 6 BBLS FW SPACER, MIX &amp; PUMP 50 SACKS (10 BBLS) CLASS G CMT, 1.15 YEILD, 15.8#, W/ 2%CALC, MIX &amp; PUMP 50 SACKS, (10 BBLS) CLASS G CMT, 1.15 YEILD, 15.8# CMT. STG CMT 5 TIMES WHILE DISPLACING TBG FOR 2 HRS. LEFT 3 BBLS IN TBG W/ 500# SQZ. STING OUT. REVERSE CIRC TBG CLN W/ 25 BBLS. GOT 3 BBLS CMT BACK IN RETURNS. POOH STDG BACK TBG. L/D STINGER. RDMO PRO PETRO. SURFACE CASING WAS GIVING UP 5 GALLONS IN 30 MINUTES, ALL DAY. SLOWED DOWN SOME AFTER CMT JOB.</p> <p>P/U 3 7/8" SBB, X/O SUB, RIH OUT OF DERICK W/ 60 JTS , EOT @ 1930'</p> <p>5PM SWI-SDFN.</p> <p>7AM JSA— DRLG EQUIP, PSI, R/U WL.</p> <p>EOT @ 1900'. SICP=0#. SITP=0#. SURFACE CASING STILL HAS FLOW TO PIT, -- 3 GALLONS IN 1.5 HRS, COMPARED TO 5 GALLONS IN 30 MINUTES. RIH W/ TBG. TAG CCR @ 2920'. R/U SWVL. ESTAB CIRC. D/O CCR &amp; CMT. RIH TO 2960'.</p> <p>MIRU CHS. RAN A CBL-CCR -GR LOG ACROSS SQZ PERFS. RDMO CHS.</p> <p>PT CSG TO 500#. LOSS 0# IN 15 MIN. POOH STDG BACK TBG. L/D BHA.</p> <p>3PM SDFD. HAVE FLOW TESTER MONITOR SURFACE CASING.</p> <p>GREASE RIG, HSM, WORKING W/ WIRELINE. SURFACE CSG, FILLING 5 GALLON BUCKET IN 4 HOURS. WAS 5 GALLON IN 30 MIN BEFORE 1stSQUEEZE</p>
1/7/2012	7:00 - 15:00	8.00	COMP	30		P		
1/9/2012	7:00 - 8:00	1.00	COMP	30		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 12/16/2011	End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 11:30	3.50	COMP	34	H	P		MIRU CHS WIRELINE, RIH W/ 4 1/2" CBP SET @ 2955' POOH P/U 4 1/2" HLBRTN CBP RIH SET @ 2900' P/U 3 1/8" 6SPF, .23 GRAM, .36 HOLES, EXP. PERF GUN, RIH SHOOT PERFS @ 2855 - 2856', POOH P/U 4 1/2" HALIBURTON CCR, RIH SET @ 2830' POOH. RDMO CHS.
	11:30 - 17:00	5.50	COMP	31	I			P/U STINGER, RIH W/ 88 JTS L-80 TBG, STING INTO CCR @ 2830' R/U HALIBURTON CEMENT CREW, TO SQUEEZE PERFS. PMP 10 BBL FW SPACER, MIX & PMP 25 SKS CLASS G CMT, 1.15 YEILD, 15.8#, W/ 2% CAL. MIX & PMP 25 SKS (5 BBLS) CLASS G CMT, 1.15 YEILD, 15.8#, DISPLACE TBG W/ 4 BBLS CMT LEFT IN TBG. STG SQZ 3 TIMES @ 20 MINUTES FIRST 2 & 10 MIN ON 3RD SQZ. GOT A 1000# SQZ. STING OUT. REVERSE CIRC TBG CLEAN. -- 2 BBLS CMT IN RETURNS. RDMO HLBRTN. POOH STDG BACK TBG. L/D STINGER. SURFACE CASING SLOWED DOWN TO 1 DRIP EVERY 5 SECONDS AFTER CMT JOB.
1/10/2012	7:00 - 7:30	0.50	COMP	48		P		5PM SWI- SDFN. PREP TO D/O CCR, CMT, CBP'S & PT IN AM.
	7:30 - 11:00	3.50	COMP	44	A	P		HSM, CONNECTIONS W/ PWR SWIVEL P/U 3 7/8" SBB, X- OVER SUB, RIH W/ 88 JTS L-80 TBG, R/U POWER SWIVEL BREAK CIRC, CONV, D/O CCR @ 2830' D/O CMT FALL FREE @ 2856' PSI TEST TO 500 PSI, 15 MIN 0 LOSS, DRILL CBP @ 2900' RIH TAG CBP @ 2955' CIRC CLEAN, POOH L/D BIT
	11:00 - 13:00	2.00	COMP	34				MIRU, CHS, RIH W/ CBL, LOG FROM 2900' TO 2500' POOH, R/D CHS
	13:00 - 15:30	2.50	COMP	31	I			P/U 4 1/2" CSG SCRAPER, RIH TAG CBP @ 2955' CIRC WELL CLEAN W/ 40 BBLS, POOH, L/D SCRAPER, SWI, SDFN
								HSM, P/U FISHING TOOLS. 0 PSI ON WELL
1/11/2012	7:00 - 7:30	0.50	COMP	48		P		P/U 3 3/4" SHOE, 2 JTS WASHPIPE, X-OVER SUB, RIH W/ 90 JTS L-80 TBG, TAG CBP @ 2955' CIRC CLEAN, POOH L/D TOOLS
	7:30 - 10:30	3.00	COMP	31	B	P		P/U 4 1/2" 11.6# HOMCO INTERNAL CSG PATCH, RIH W/ TBG, SET PATCH FROM 2931' TO 2951' COVERING SQUEEZED PERFS @ 2940' - 2941', POOH L/D SETTING TOOL, 3PM SWI, SDFN
	10:30 - 10:00		COMP	31	I			HSM, P/U FISHING TOOLS. 0 PSI ON WELL
1/12/2012	7:00 - 7:30	0.50	COMP	48		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 12/16/2011	End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 15:00	7.50	COMP	31	C			P/U WEATHERFORD PACKER RIH, SET @ 2877' PSI TEST TO 1000PSI 15 MIN 15# LOSS PSI TETS TO 3500 PSI 15 MIN 417# LOSS PSI TEST TO 3500 PSI 15 MIN 431# LOSS PSI TEST TO 3500 PSI 15 MIN 450# LOSS RELEASE PACKER , P/U 10' PUP RESET PACKER @ 2887' PSI TEST TO 3500 PSI 15 MIN 540# LOSS PSI TEST TO 7000 PSI 3000# LOSS RELEASE PACKER POOH L/D PACKER 3PM SWI, SDFN
1/13/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, P/U DRILL COLLARS
	7:30 - 10:00	2.50	COMP	31	I	P		P/U 3 3/4" WEATHERFORD SECTION MILL 3.875" STABILIZER 3 1/8" BOWEN JAR 3 1/16" B X P X-OVER SUB 4- 3 1/16" DRILL COLLARS 3 1/8" B X P X-OVER SUB 87 JTS L-80 TBG TAG @ 2910' SLMD R/U POWER SWIVEL, BREAK CIRC CONVENTIONAL. START MILLING UP HOMCO 4 1/2"
	10:00 - 7:30		COMP	44	D			11.6# INTERNAL CSG PATCH DRILL UP 8.5' , TBG PRESSURE UP, QUIT MAKING HOLE, CIRC CLEAN , POOH, DRAIN PUMP & LINES 5PM SWI SDFN
1/14/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, R/U POWER SWIVEL, CWP 0 PSI ON WELL
	7:30 - 10:30	3.00	COMP	31	I	P		P/U 1.875" PROFILE NIPPLE RIH TAG @ 2934' SLMD, BREAK CIRC REV, CIRC CLEAN, POOH L/D PROFILE NIPPLE, P/U 3 3/4" WFTD SECT MILL 3.875" STABILIZER BOWEN JARS X-OVER SUB 4 DRILL COLLARS X-OVER SUB RIH W/ 88 JTS L-80 TBG TAG @ 2919' SLMD R/U POWER SWIVEL, BREAK CIRC, START MILLING UP 11.5' OF REMAINING CSG PATCH, MAKE 6.5', 2926' SLMD 5PM CIRC CLEAN, L/D 5 JTS, EOT @ 2783' DRAIN PUMP & LINES, 530 PM SWI SDFN
	10:30 - 17:30	7.00	COMP	44	D			HSM, L/D DRILL COLLARS. 0 PSI ON WELL RIH W/ 5 JTS L-80 TBG, R/U POWER SWIVEL, BREAK CIRC CONV, START MILLING ON CSG PATCH, EOT @ 2926' 130 PM THROUGH PATCH, PUMP SWEEP, CIRC CLEAN. R/D POWER SWIVEL, POOH , L/D WEATHERFORD SECTION MILL P/U WEATHERFORD 4 1/2" SCRAPER, RIH TO CBP @ 2933' SLMD CIRC CLEAN, L/D 6 JTS EOT@ 2782' 530 PM, SWI, SDFN
1/16/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, P/U CSG PATCH. 0 PSI ON WELL
	7:30 - 14:00	6.50	COMP	44	D	P		
	14:00 - 18:00	4.00	COMP	31	I	P		
1/17/2012	7:00 - 7:30	0.50	COMP	48		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud Date: 7/14/2011	
Project: UTAH-UINTAH		Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3	
Event: COMPLETION		Start Date: 12/16/2011		End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/18/2012	7:30 - 8:30	1.00	COMP	31	I	P		EOT @ 2782' POOH W/ L-80 TBG, STANDING BACK IN DERICK, L/D SCRAPER.
	8:30 - 14:30	6.00	COMP	46	E	Z		PSI TEST CSG TO 500#, 0 LOSS IN 15 MIN
	14:30 - 18:30	4.00	COMP	31	I	P		WAITING TO MODIFY SETTING TOOL FOR CASING PATCH
								P/U HOMCO 4 1/2" 11.6# 30' INTERNAL CSG
								PATCH, RIH W/ 90 JTS L-80 TBG, 2 - 8' PUPS, SET OVER SQUEEZED PERFS,
								TOP OF PATCH 2931' SLMD
								BOTTOM OF PATCH 2951' SLMD
								SQUEEZED PERFS @ 2940'-2941'
								PATCH SET, POOH 6 JTS, EOT @ 2761'
								630 PM SWI, SDFN
1/18/2012	9:00 -		COMP	48		P		HSM, L/D CSG PATCH SETTING TOOL.
	9:30 - 10:30	1.00	COMP	31	I	P		0 PSI ON WELL, EOT @ 2761'
	10:30 - 16:00	5.50	COMP	31	I	P		POOH W/ 84 JTS L
1/19/2012								P/U WEATHERFORD 32 - A 4 1/2" PACKER
								RIH W/ 90 JTS L-80 TBG SET PACKER @ 2877'
								SLMD.
								TEST PATCH TO
								1000 PSI 100 LOSS IN 15 MIN
								3500 PSI 2000 LOSS 15 MIN
								RELEASE PACKER POOH W/ 90 JTS L-80 TBG 400
								PM SWI, SDFN
	7:00 - 7:30	0.50	COMP	48		P		HSM, P/U DRILL COLLARS. 0 PSI ON WELL
	7:30 - 8:30	1.00	COMP	31	I	P		P/U WEATHER FORD 3 3/4" SECTION MILL
1/20/2012								1- 4 BLADE STABILIZER 3 3/4" OD
								1- 3 7/8" BOWEN JAR
								1- B X P 3 1/8" X-OVER
								4- 3 1/16" DRILL COLLARS
								1- 3 1/8" B X P 3 1/8" X-OVER
								BHA = 132.8'
								JTS L-80 TBG TAG PATCH @
	8:30 - 17:00	8.50	COMP	44	D	P		R/U PWR SWIVEL, BREAK CIRC CONV,
								START MILLING, MAKE 14' L/D 2 JTS EOT@ 2878'
								5 PM SWI, SDFN
1/20/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, MAKING PWR SWWL CONNECTIONS
	7:30 - 7:30	0.00	COMP	44	D	P		0 PSI ON WELL
1/21/2012								EOT @ 2878' P/U 2 JTS L-80 TBG, TAG PATCH @
								2924' SLMD, R/U PWR SWWL, BREAK CIRC CONV,
								START MILLING
								1115 AM THROUGH PATCH, CIRC CLEAN
								POOH LAYING DOWN 88 JTS L-80 TBG
								4-DRILL COLLARS, JARS, MILL.
								R/D FLOOR, N/D BOPS, N/U WELLHEAD.
								RACK OUT EQUIP, RDMO, MIRU ON
								NBU 921-18F1BS
								4 PM SDFN
1/21/2012	7:00 - 9:00	2.00	COMP	34		P		R/U BWWS RIH W/ 40 ARM CALIPER LOG,
2/3/2012								LOG TO SURFACE
	7:00 - 7:30	0.50	COMP	48		P		RDMO BWWS
								HSM, R/U RIG, 0 PSI ON WELL



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011	Spud Date: 7/14/2011
Project: UTAH-UINTAH	Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 12/16/2011	End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0	

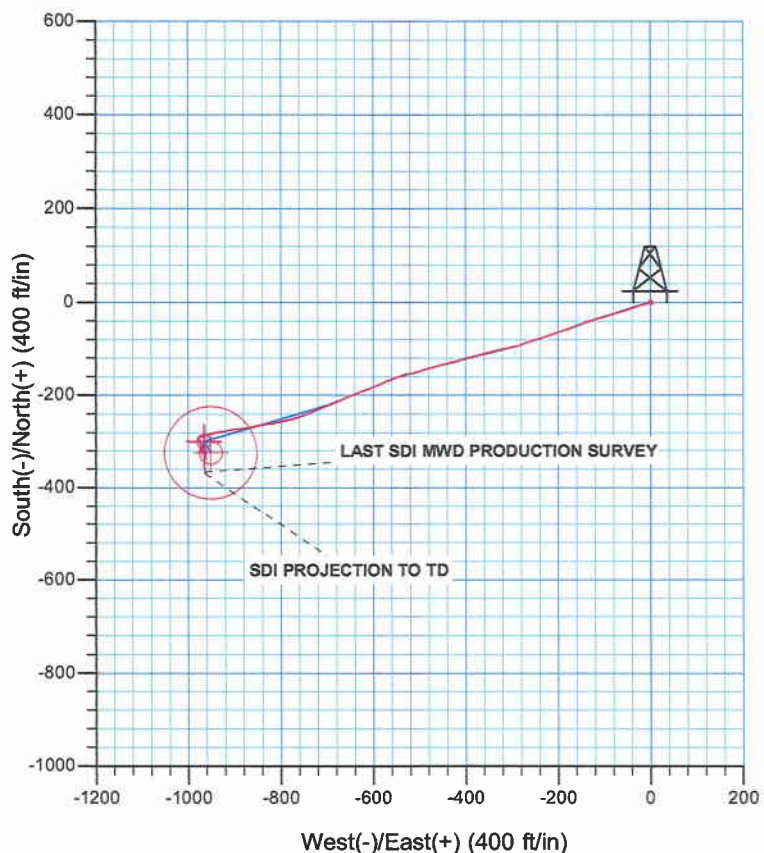
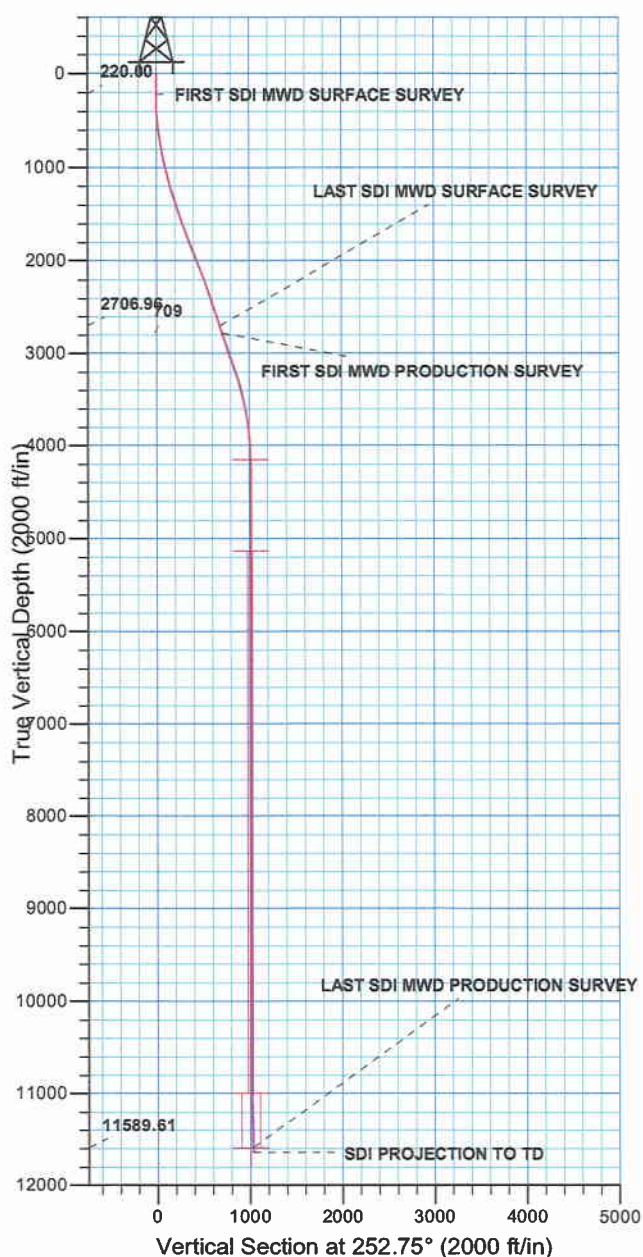
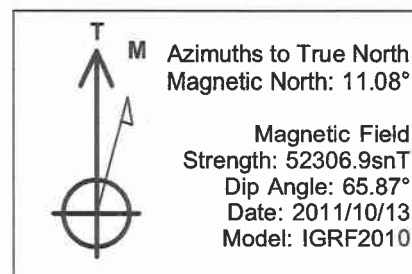
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 9:00	1.50	COMP	31	I	P		MIRU, N/D WELLHEAD, N/U WELLHEAD RIG UP FLOOR, P/U 3-7/8" SBB, POBS, 92 JTS L-80 TBG, TAG CBP @ 2955' SUB UP W/ 8' & 10' & 6' SUBS R/U PWR SWWL, BREAK CIRC CONV. D/O CBP @ 2955', NO PSI KICK, RIH TO 3178' CIRCULATE WELL CLEAN, POOH, L/D 100 JTS L-80 TBG. R/U BLACK WARRIOR WIRELINE SERVICE, RIH W/ 1-11/16" WT BAR STACK OUT @ 3698', POOH R/D WL, P/U 3-7/8" SBB, POBS, RIH W/ 100 JTS L-80 TBG, 8' SUB, EOT @ 3200'.
2/4/2012	7:00 - 19:00	12.00	COMP	48		P		5PM SWI, SDFN HSM, P/U TBG. 0 PSI ON WELL. EOT @ 3178' P/U L-80 TBG, TAG BTM OF CBP @ 3700' KNOCK LOOSE, RIH TO 10002' DONT TAG, POOH L/D TBG, POBS, 3 7/8" SBB. R/U BWWS, RIH W/ 4 1/2" CIBP, SET @ 10340' POOH RIH, DUMP BAIL 2 SKS CMT ON TOP OF CIBP, POOH R/D BWWS, 7 PM SWI SDFN. MOVING OFF WELL, RIG WILL MOVE BACK ON WELL.
3/22/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, RIGGING UP RIG & EQUIP
	7:30 - 9:00	1.50	COMP	30	A	P		RIG UP, NU 71/16 10K SPOOL & BOPS, RU FLOOR.
	9:00 - 10:30	1.50	COMP	34		P		RU CASD HOLE, RIH W/ 41/2 GAUGE RING TO 6800 POOH RD CASD HOLE.
	10:30 - 17:30	7.00	COMP	31	C	P		TALLY & PU 4-1/2 32-A WEATHERFORD PKR & 94 JTS 2-3/8 L-80 NEW TBG F/ C-TAP, SET PKR @ 3001.92' FILL TBG W/ 30 BBLs WTR, RU B&C TEST TBG & VOID BELOW PKR TO 5,000 PSI FOR 30 MIN, LOST 46 PSI. GOOD TEST, BLEAD OFF PSI RD B&C. UNSET PKR L/D 94 JTS 2-3/8 L/80 & PKR SWI SDFN.
3/23/2012	-							
3/26/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, PICKING UP 3-1/2 ULTRA FJ CSG
	7:30 - 15:00	7.50	COMP	31	I	P		X/O PIPE RAMS TO 3-1/2 & ELEVATORS WAIT ON CSG CREW. RU CSG CREW WHILE CLEANING TREADS ON FLOAT & GUIDED FOUND WRONG TREADS, CALLED HALIBURTON. WILL HAVE TO GET NEW FLOAT EQUIP SHIPPED IN SWI SDFN.
3/27/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, PICKING UP 3-1/2 ULTRA FJ CSG.
	7:30 - 13:00	5.50	COMP	46	E	P		WAIT ON 3-1/2 FLOAT EQUIP TO ARIVE ON LOCATION & CSG CREW.
	13:00 - 18:00	5.00	COMP			P		TALLY & PU 3-1/2 12.95# ULTRA FJ GUIDED SHOE, 1 JT 31/2 12.95 FJ CSG, 3-1/2 12.95# ULTRA FJ FLOAT COLLAR, 69 JTS 3-1/2 12.95# FJ CSG, SWI SDFN.
3/28/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W/ CSG CREW PICKING UP 31/2 CSG.
	7:30 - 10:00	2.50	COMP			P		SICP 0, PU REM 85 JTS 31/2 12.95 # FJ CSG LAND CSG.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud Date: 7/14/2011	
Project: UTAH-UINTAH		Site: NBU 921-18D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3	
Event: COMPLETION		Start Date: 12/16/2011		End Date:	
Active Datum: RKB @4,730.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	10:00 - 18:00	8.00	COMP	51	C	P		RD KIMZEY CSG CREW, RU HALIBURTON CMT HEAD & LINES BROKE CIRC TO MAKE SURE OF GOOD CIRCULATION, TEST LINES TO 5,000 PSI, PUMPED 20 BBLS FRESH WTR, 19.3 BBLS CLASS C CMT 13.5 # 1.55 YEILD 70 SKS, DROP PLUG FLUSH W/ 35.17 BBLS BUMP PLUG SHUT DWN NO CMT TO SURF. CHECK FLOATS OK, RD HALIBURTON, ND BOPS TRYED TO NU WH SEAL BORE WASN'T TALL ENOUGH TO TAKE ALL OF HANGER CAMERON WILL FIX PROBLEM & NU WH. RDMOL. MIRU ON NBU 921-20P1BS SDFN.
4/3/2012	8:00 - 15:00	7.00	COMP	32	A	P		HSM, REVIEW OVERALL JOB / MIRU HALIBURTON 2" COIL TBG UNIT.
	15:00 - 0:00	9.00	COMP	32	A	P		P/U 1-11/16 MUD MOTOR W/ 2-5/8 MILL, RIH W/ COIL TBG TAG @=4,752' EST CIRC W/ HALIBURTON PUMP, OUMOING 1-1/2 BPM TO 2 BPM, START DRL THROUGH WPER PLUG, 30' CEMENT, DRL DOWN TO 4,808' STOP MAKING HOLE POH W/ COIL TBG TO CHECK MILL. MILL SHOWS LITTLE WEAR.
4/4/2012	0:00 - 16:00	16.00	COMP	32	A	P		P/U 2-1/2 MILL ON 2" COIL TBG, RIH TAG @=4,805' FELL THROUGH @=4,808', FELL OUT OF 3-1/2 INTO 4-1/2 CSG, CONTINUE TO RIH W/ COIL TBG, TAG CEMENT ON TOP OF CIBP, @=10,340' EST CIRC 1-1/2 TO 2 BPM, BEGIN DRLG @=03:00 FELL THROUGH CIBP @=06:00, NO PRESSURE INCREASE. CONTINUE TO CBP @=11,148' TAG & DRL THROUGH CBP IN 5 MIN W/ 1,700# INCREASE, CONTIUE TO RIH TAG #2 CBP @=11,256' DRL THROUGH IN 2 MIN, W/ 1,000# INCREASE PROBLEMS CONTINUEING IN HOLE HAD TO PLAY W/ COIL TBG APROX 1 HOUR MOVING UP & DOWN, GOT FREE CONTINUE TO RIH TAG #3 CBP @=11,423' HARDLY TOUCHED PLUG W/ COIL TBG PLUG FELL APART CONTINUED TO RIH, C/O TO 11.660' RUN 10 BBL SWEEP CIRC FOR 30 MIN, POOH W/ COIL TBG, R/D COIL TBG UNIT TURN WELL OVER TO F/B CREW.
4/5/2012	13:00 -		COMP	50				ISIP BIULD UP TO 4,700# WELL TURNED TO SALES AT 1300 HR ON 4/5/2012 - 2500 MCFD, 1680 BWPd, FCP 4800#, FTP 4668#, 20/64 CK
4/6/2012	-							
4/7/2012	7:00 -		PROD	35				WELL IP'D ON 4/7/12 - 4376 MCFD, 0 BOPD, 1330 BWPd, CP 3825#, FTP 3717#, CK 18/64", LP 350#, 24 HRS
4/8/2012	-							

WELL DETAILS: NBU 921-18D3DS					
GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)					
+N-S 0.00	+E-W 0.00	Northing 14544032.20	Easting 2032611.30	Latitude 40° 2' 27.330 N	Longitude 109° 35' 55.622 W



PROJECT DETAILS: Uintah County, UT UTM12	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 - Western US
Ellipsoid:	Clarke 1886
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 18 T9S R21E
System Datum:	Mean Sea Level



# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT UTM12  
NBU 921-18D PAD  
NBU 921-18D3DS**

**OH**

**Design: OH**

## **Standard Survey Report**

**14 November, 2011**



**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 921-18D PAD  
**Well:** NBU 921-18D3DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18D3DS  
**TVD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**MD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Project:** Uintah County, UT UTM12  
**Map System:** Universal Transverse Mercator (US Survey Feet) **System Datum:** Mean Sea Level  
**Geo Datum:** NAD 1927 - Western US  
**Map Zone:** Zone 12N (114 W to 108 W)

**Site:** NBU 921-18D PAD, SECTION 18 T9S R21E  
**Site Position:** **Northing:** 14,544,032.20 usft **Latitude:** 40° 2' 27.330 N  
**From:** Lat/Long **Easting:** 2,032,611.30 usft **Longitude:** 109° 35' 55.622 W  
**Position Uncertainty:** 0.00 ft **Slot Radius:** 13.200 in **Grid Convergence:** 0.90 °

**Well:** NBU 921-18D3DS, 888 FNL 1788 FVL  
**Well Position:** **+N/-S:** 0.00 ft **Northing:** 14,544,032.20 usft **Latitude:** 40° 2' 27.330 N  
**+E/-W:** 0.00 ft **Easting:** 2,032,611.30 usft **Longitude:** 109° 35' 55.622 W  
**Position Uncertainty:** 0.00 ft **Wellhead Elevation:** ft **Ground Level:** 4,711.00 ft

**Wellbore:** OH  
**Magnetics:** **Model Name:** IGRF2010 **Sample Date:** 2011/10/13 **Declination (°):** 11.08 **Dip Angle (°):** 65.87 **Field Strength (nT):** 52,307

**Design:** OH  
**Audit Notes:**  
**Version:** 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.00  
**Vertical Section:** **Depth From (TVD) (ft):** 0.00 **+N/-S (ft):** 0.00 **+E/-W (ft):** 0.00 **Direction (°):** 252.75

**Survey Program:** **Date:** 2011/11/14  
**From (ft):** **To (ft):** **Survey (Wellbore):** **Tool Name:** **Description:**  
15.00 2,815.00 Survey #1 SDI MWD SURFACE (OH) MWD SDI MWD - Standard ver 1.0.1  
2,898.00 11,799.00 Survey #2 PRODUCTION (OH) MWD SDI MWD - Standard ver 1.0.1

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
220.00	0.07	17.21	220.00	0.12	0.04	-0.07	0.03	0.03	0.00
<b>FIRST SDI MWD SURFACE SURVEY</b>									
303.00	1.16	240.97	302.99	-0.24	-0.68	0.72	1.46	1.31	-164.14
391.00	2.98	253.11	390.93	-1.34	-3.65	3.88	2.12	2.07	13.80
481.00	4.36	256.10	480.75	-2.84	-9.21	9.64	1.55	1.53	3.32
571.00	6.22	256.30	570.36	-4.81	-17.27	17.92	2.07	2.07	0.22
661.00	7.90	252.31	659.67	-7.85	-27.90	28.97	1.94	1.87	-4.43
751.00	9.38	251.78	748.65	-12.02	-40.76	42.49	1.65	1.64	-0.59

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 921-18D PAD  
**Well:** NBU 921-18D3DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18D3DS  
**TVD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**MD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
841.00	10.97	252.13	837.23	-16.94	-55.88	58.39	1.77	1.77	0.39
931.00	12.27	252.69	925.39	-22.42	-73.16	76.51	1.45	1.44	0.62
1,021.00	13.82	253.98	1,013.06	-28.23	-92.62	96.83	1.75	1.72	1.43
1,111.00	15.00	253.37	1,100.23	-34.53	-114.11	119.22	1.32	1.31	-0.68
1,201.00	16.46	251.40	1,186.86	-41.93	-137.36	143.61	1.73	1.62	-2.19
1,291.00	17.48	250.07	1,272.94	-50.60	-162.15	169.86	1.21	1.13	-1.48
1,381.00	17.90	250.83	1,358.68	-59.75	-187.92	197.19	0.53	0.47	0.84
1,471.00	19.03	251.59	1,444.05	-68.93	-214.91	225.68	1.28	1.26	0.84
1,561.00	19.21	250.87	1,529.08	-78.42	-242.82	255.15	0.33	0.20	-0.80
1,651.00	19.70	251.75	1,613.94	-88.02	-271.22	285.12	0.63	0.54	0.98
1,741.00	19.42	256.36	1,698.75	-96.30	-300.16	315.22	1.74	-0.31	5.12
1,801.00	20.44	256.90	1,755.16	-101.02	-320.06	335.62	1.73	1.70	0.90
2,011.00	22.92	254.54	1,950.29	-120.24	-395.20	413.08	1.25	1.18	-1.12
2,101.00	21.70	255.27	2,033.55	-129.14	-428.19	447.22	1.39	-1.36	0.81
2,191.00	21.92	255.21	2,117.11	-137.66	-460.52	480.63	0.25	0.24	-0.07
2,281.00	21.31	255.76	2,200.78	-145.97	-492.61	513.74	0.71	-0.68	0.61
2,371.00	18.58	254.53	2,285.38	-153.82	-522.29	544.41	3.07	-3.03	-1.37
2,401.00	18.28	254.18	2,313.84	-156.38	-531.42	553.89	1.07	-1.00	-1.17
2,521.00	17.38	247.52	2,428.09	-168.36	-566.09	590.56	1.86	-0.75	-5.55
2,551.00	17.77	246.49	2,456.69	-171.90	-574.43	599.57	1.66	1.30	-3.43
2,641.00	18.41	248.48	2,542.24	-182.59	-600.25	627.40	0.99	0.71	2.21
2,731.00	19.09	249.86	2,627.46	-192.88	-627.29	656.27	0.90	0.76	1.53
2,815.00	18.60	247.97	2,706.96	-202.63	-652.60	683.34	0.93	-0.58	-2.25
<b>LAST SDI MWD SURFACE SURVEY</b>									
2,898.00	17.32	246.19	2,785.91	-212.58	-676.18	708.80	1.68	-1.54	-2.14
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,993.00	17.32	247.86	2,876.61	-223.62	-702.21	736.94	0.52	0.00	1.76
3,088.00	17.94	248.21	2,967.14	-234.38	-728.90	765.61	0.66	0.65	0.37
3,183.00	18.55	250.23	3,057.37	-244.92	-756.70	795.30	0.92	0.64	2.13
3,278.00	18.91	256.21	3,147.35	-253.71	-785.88	825.76	2.06	0.38	6.29
3,372.00	18.47	262.36	3,236.40	-259.32	-815.43	855.65	2.15	-0.47	6.54
3,467.00	16.88	259.55	3,326.91	-263.82	-843.91	884.19	1.90	-1.67	-2.96
3,562.00	16.00	259.81	3,418.03	-268.64	-870.36	910.88	0.93	-0.93	0.27
3,657.00	14.07	262.54	3,509.77	-272.45	-894.70	935.25	2.16	-2.03	2.87
3,752.00	11.96	259.99	3,602.33	-275.66	-915.85	956.40	2.30	-2.22	-2.68
3,847.00	9.50	259.20	3,695.66	-278.85	-933.24	973.96	2.59	-2.59	-0.83
3,942.00	7.30	258.32	3,789.63	-281.54	-946.86	987.75	2.32	-2.32	-0.93
4,037.00	6.07	255.50	3,883.99	-284.02	-957.63	998.78	1.34	-1.29	-2.97
4,132.00	4.75	248.74	3,978.56	-286.70	-966.16	1,007.72	1.54	-1.39	-7.12
4,226.00	2.90	242.23	4,072.35	-289.22	-971.89	1,013.94	2.02	-1.97	-6.93
4,321.00	1.14	229.22	4,167.29	-290.96	-974.73	1,017.17	1.90	-1.85	-13.69
4,416.00	0.44	187.04	4,262.28	-291.94	-975.49	1,018.19	0.91	-0.74	-44.40
4,511.00	0.62	192.49	4,357.27	-292.80	-975.65	1,018.59	0.20	0.19	5.74

**Company:** Kerr McGee Oil and Gas Onshore LP  
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**Well:** NBU 921-18D3DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18D3DS  
**TVD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**MD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,606.00	0.79	184.40	4,452.27	-293.95	-975.81	1,019.09	0.21	0.18	-8.52
4,700.00	0.97	194.51	4,546.26	-295.37	-976.06	1,019.75	0.25	0.19	10.76
4,795.00	1.32	189.06	4,641.24	-297.23	-976.43	1,020.66	0.39	0.37	-5.74
4,890.00	0.79	136.50	4,736.22	-298.79	-976.16	1,020.85	1.10	-0.56	-55.33
4,985.00	0.79	145.55	4,831.21	-299.80	-975.33	1,020.37	0.13	0.00	9.53
5,080.00	2.02	160.76	4,926.18	-301.92	-974.41	1,020.12	1.34	1.29	16.01
5,175.00	2.20	146.43	5,021.12	-305.02	-972.85	1,019.54	0.58	0.19	-15.08
5,270.00	2.20	149.60	5,116.05	-308.11	-970.92	1,018.62	0.13	0.00	3.34
5,365.00	2.02	145.73	5,210.98	-311.07	-969.06	1,017.71	0.24	-0.19	-4.07
5,460.00	1.49	145.64	5,305.94	-313.47	-967.42	1,016.86	0.56	-0.56	-0.09
5,555.00	0.44	19.52	5,400.93	-314.15	-966.60	1,016.28	1.88	-1.11	-132.76
5,650.00	0.97	347.61	5,495.92	-313.02	-966.65	1,015.99	0.67	0.56	-33.59
5,745.00	0.62	333.90	5,590.91	-311.77	-967.05	1,016.00	0.42	-0.37	-14.43
5,841.00	0.62	303.40	5,686.91	-311.02	-967.71	1,016.41	0.34	0.00	-31.77
5,935.00	0.18	340.58	5,780.91	-310.60	-968.18	1,016.74	0.52	-0.47	39.55
6,030.00	0.35	228.96	5,875.90	-310.65	-968.45	1,017.01	0.47	0.18	-117.49
6,125.00	0.70	223.34	5,970.90	-311.26	-969.07	1,017.78	0.37	0.37	-5.92
6,219.00	0.88	206.37	6,064.89	-312.33	-969.78	1,018.78	0.31	0.19	-18.05
6,314.00	0.88	198.11	6,159.88	-313.68	-970.33	1,019.70	0.13	0.00	-8.69
6,409.00	0.97	201.80	6,254.87	-315.12	-970.86	1,020.63	0.11	0.09	3.88
6,504.00	1.06	199.17	6,349.85	-316.69	-971.45	1,021.66	0.11	0.09	-2.77
6,599.00	1.06	185.98	6,444.84	-318.40	-971.83	1,022.53	0.26	0.00	-13.88
6,693.00	1.06	187.74	6,538.82	-320.12	-972.03	1,023.24	0.03	0.00	1.87
6,788.00	1.14	185.72	6,633.80	-321.93	-972.25	1,023.98	0.09	0.08	-2.13
6,883.00	0.62	173.06	6,728.79	-323.38	-972.28	1,024.44	0.58	-0.55	-13.33
6,978.00	0.67	151.08	6,823.79	-324.38	-971.95	1,024.42	0.26	0.05	-23.14
7,073.00	0.79	138.35	6,918.78	-325.36	-971.24	1,024.04	0.21	0.13	-13.40
7,168.00	0.09	206.46	7,013.78	-325.91	-970.84	1,023.82	0.80	-0.74	71.69
7,263.00	1.23	346.29	7,108.77	-324.99	-971.12	1,023.81	1.37	1.20	147.19
7,358.00	1.76	354.64	7,203.74	-322.54	-971.49	1,023.44	0.60	0.56	8.79
7,453.00	1.58	0.62	7,298.70	-319.78	-971.62	1,022.74	0.26	-0.19	6.29
7,547.00	1.14	359.57	7,392.67	-317.55	-971.61	1,022.07	0.47	-0.47	-1.12
7,642.00	0.96	8.90	7,487.65	-315.82	-971.49	1,021.45	0.26	-0.19	9.82
7,737.00	0.79	9.41	7,582.64	-314.39	-971.26	1,020.80	0.18	-0.18	0.54
7,831.00	0.88	15.30	7,676.63	-313.05	-970.97	1,020.13	0.13	0.10	6.27
7,926.00	0.44	17.41	7,771.63	-312.00	-970.67	1,019.53	0.46	-0.46	2.22
8,021.00	0.26	35.69	7,866.62	-311.48	-970.43	1,019.15	0.22	-0.19	19.24
8,116.00	0.18	71.37	7,961.62	-311.25	-970.16	1,018.82	0.16	-0.08	37.56
8,211.00	0.26	159.00	8,056.62	-311.41	-969.94	1,018.66	0.33	0.08	92.24
8,306.00	0.18	180.97	8,151.62	-311.76	-969.87	1,018.69	0.12	-0.08	23.13
8,401.00	0.26	153.81	8,246.62	-312.10	-969.78	1,018.71	0.14	0.08	-28.59
8,496.00	0.62	166.29	8,341.62	-312.79	-969.56	1,018.71	0.39	0.38	13.14
8,590.00	0.88	160.58	8,435.61	-313.97	-969.20	1,018.71	0.29	0.28	-6.07
8,685.00	0.79	164.27	8,530.60	-315.29	-968.78	1,018.70	0.11	-0.09	3.88



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**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,780.00	1.14	164.80	8,625.59	-316.83	-968.35	1,018.75	0.37	0.37	0.56
8,875.00	1.41	152.06	8,720.56	-318.77	-967.56	1,018.57	0.41	0.28	-13.41
8,971.00	1.32	165.24	8,816.54	-320.89	-966.72	1,018.40	0.34	-0.09	13.73
9,066.00	1.49	167.79	8,911.51	-323.15	-966.18	1,018.55	0.19	0.18	2.68
9,161.00	0.42	169.05	9,006.49	-324.70	-965.86	1,018.70	1.13	-1.13	1.33
9,256.00	0.97	24.35	9,101.49	-324.31	-965.46	1,018.20	1.41	0.58	-152.32
9,351.00	1.06	16.18	9,196.47	-322.73	-964.88	1,017.19	0.18	0.09	-8.60
9,445.00	0.70	13.01	9,290.46	-321.34	-964.51	1,016.42	0.39	-0.38	-3.37
9,540.00	0.26	67.15	9,385.46	-320.69	-964.18	1,015.91	0.62	-0.46	56.99
9,635.00	0.09	122.70	9,480.46	-320.65	-963.92	1,015.65	0.23	-0.18	58.47
9,730.00	0.53	137.64	9,575.46	-321.01	-963.56	1,015.41	0.47	0.46	15.73
9,825.00	0.53	46.94	9,670.45	-321.04	-962.94	1,014.83	0.79	0.00	-95.47
9,920.00	0.47	338.62	9,765.45	-320.37	-962.76	1,014.46	0.59	-0.06	-71.92
10,015.00	0.18	16.18	9,860.45	-319.87	-962.87	1,014.41	0.36	-0.31	39.54
10,110.00	0.18	64.25	9,955.45	-319.66	-962.69	1,014.18	0.15	0.00	50.60
10,205.00	0.35	142.21	10,050.45	-319.82	-962.38	1,013.93	0.38	0.18	82.06
10,300.00	0.79	133.51	10,145.44	-320.50	-961.72	1,013.51	0.47	0.46	-9.16
10,394.00	0.70	159.62	10,239.44	-321.49	-961.05	1,013.16	0.37	-0.10	27.78
10,489.00	0.79	183.87	10,334.43	-322.89	-960.90	1,013.37	0.34	0.09	25.53
10,584.00	1.23	187.92	10,429.41	-324.35	-961.08	1,014.03	0.47	0.46	4.26
10,679.00	1.67	205.58	10,524.38	-326.61	-961.82	1,015.41	0.65	0.46	18.59
10,774.00	1.93	194.24	10,619.34	-329.41	-962.81	1,017.19	0.46	0.27	-11.94
10,869.00	2.11	192.49	10,714.28	-332.67	-963.58	1,018.89	0.20	0.19	-1.84
10,963.00	2.11	187.39	10,808.21	-336.07	-964.18	1,020.47	0.20	0.00	-5.43
11,058.00	2.02	188.79	10,903.15	-339.46	-964.66	1,021.93	0.11	-0.09	1.47
11,153.00	2.20	179.57	10,998.09	-342.94	-964.90	1,023.20	0.40	0.19	-9.71
11,248.00	2.20	183.43	11,093.02	-346.58	-965.00	1,024.37	0.16	0.00	4.06
11,342.00	2.37	183.87	11,186.94	-350.32	-965.24	1,025.70	0.18	0.18	0.47
11,437.00	2.29	175.35	11,281.87	-354.17	-965.22	1,026.83	0.37	-0.08	-8.97
11,532.00	2.46	177.90	11,376.78	-358.10	-964.99	1,027.77	0.21	0.18	2.68
11,627.00	2.29	172.27	11,471.70	-362.02	-964.66	1,028.62	0.30	-0.18	-5.93
11,722.00	2.20	180.88	11,566.63	-365.72	-964.43	1,029.50	0.37	-0.09	9.06
11,745.00	2.37	182.12	11,589.61	-366.64	-964.45	1,029.80	0.77	0.74	5.39
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
11,799.00	2.37	182.12	11,643.57	-368.87	-964.54	1,030.54	0.00	0.00	0.00
<b>SDI PROJECTION TO TD</b>									



**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 921-18D PAD  
**Well:** NBU 921-18D3DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18D3DS  
**TVD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**MD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
220.00	220.00	0.12	0.04	FIRST SDI MWD SURFACE SURVEY
2,815.00	2,706.96	-202.63	-652.60	LAST SDI MWD SURFACE SURVEY
2,898.00	2,785.91	-212.58	-676.18	FIRST SDI MWD PRODUCTION SURVEY
11,745.00	11,589.61	-366.64	-964.45	LAST SDI MWD PRODUCTION SURVEY
11,799.00	11,643.57	-368.87	-964.54	SDI PROJECTION TO TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT UTM12  
NBU 921-18D PAD  
NBU 921-18D3DS**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**14 November, 2011**



<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-18D3DS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)
<b>Site:</b>	NBU 921-18D PAD	<b>MD Reference:</b>	GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)
<b>Well:</b>	NBU 921-18D3DS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-18D PAD, SECTION 18 T9S R21E			
<b>Site Position:</b>		<b>Northing:</b>	14,544,032.20 usft	<b>Latitude:</b> 40° 2' 27.330 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,032,611.30 usft	<b>Longitude:</b> 109° 35' 55.622 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.90 °

<b>Well</b>	NBU 921-18D3DS, 888 FNL 1788 FWL			
<b>Well Position</b>	+N/-S	0.00 ft	<b>Northing:</b>	14,544,032.20 usft
	+E/-W	0.00 ft	<b>Easting:</b>	2,032,611.30 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 4,711.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2011/10/13	11.08	65.87	52,307

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	252.75	

<b>Survey Program</b>	<b>Date</b>	2011/11/14			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
15.00	2,815.00	Survey #1 SDI MWD SURFACE (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,898.00	11,799.00	Survey #2 PRODUCTION (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,544,032.20	2,032,611.30	40° 2' 27.330 N	109° 35' 55.622 W	
15.00	0.00	0.00	15.00	0.00	0.00	14,544,032.20	2,032,611.30	40° 2' 27.330 N	109° 35' 55.622 W	
220.00	0.07	17.21	220.00	0.12	0.04	14,544,032.32	2,032,611.33	40° 2' 27.331 N	109° 35' 55.622 W	
FIRST SDI MWD SURFACE SURVEY										
303.00	1.16	240.97	302.99	-0.24	-0.68	14,544,031.95	2,032,610.62	40° 2' 27.328 N	109° 35' 55.631 W	
391.00	2.98	253.11	390.93	-1.34	-3.65	14,544,030.80	2,032,607.67	40° 2' 27.317 N	109° 35' 55.669 W	
481.00	4.36	256.10	480.75	-2.84	-9.21	14,544,029.21	2,032,602.13	40° 2' 27.302 N	109° 35' 55.741 W	
571.00	6.22	256.30	570.36	-4.81	-17.27	14,544,027.11	2,032,594.11	40° 2' 27.282 N	109° 35' 55.844 W	
661.00	7.90	252.31	659.67	-7.85	-27.90	14,544,023.91	2,032,583.53	40° 2' 27.252 N	109° 35' 55.981 W	
751.00	9.38	251.78	748.65	-12.02	-40.76	14,544,019.53	2,032,570.73	40° 2' 27.211 N	109° 35' 56.147 W	
841.00	10.97	252.13	837.23	-16.94	-55.88	14,544,014.38	2,032,555.70	40° 2' 27.163 N	109° 35' 56.341 W	

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 921-18D PAD  
**Well:** NBU 921-18D3DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18D3DS  
**TVD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**MD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
931.00	12.27	252.69	925.39	-22.42	-73.16	14,544,008.63	2,032,538.50	40° 2' 27.108 N	109° 35' 56.563 W
1,021.00	13.82	253.98	1,013.06	-28.23	-92.62	14,544,002.51	2,032,519.13	40° 2' 27.051 N	109° 35' 56.813 W
1,111.00	15.00	253.37	1,100.23	-34.53	-114.11	14,543,995.88	2,032,497.74	40° 2' 26.989 N	109° 35' 57.090 W
1,201.00	16.46	251.40	1,186.86	-41.93	-137.36	14,543,988.11	2,032,474.62	40° 2' 26.916 N	109° 35' 57.389 W
1,291.00	17.48	250.07	1,272.94	-50.60	-162.15	14,543,979.05	2,032,449.96	40° 2' 26.830 N	109° 35' 57.708 W
1,381.00	17.90	250.83	1,358.68	-59.75	-187.92	14,543,969.49	2,032,424.34	40° 2' 26.739 N	109° 35' 58.039 W
1,471.00	19.03	251.59	1,444.05	-68.93	-214.91	14,543,959.89	2,032,397.50	40° 2' 26.649 N	109° 35' 58.386 W
1,561.00	19.21	250.87	1,529.08	-78.42	-242.82	14,543,949.97	2,032,369.74	40° 2' 26.555 N	109° 35' 58.745 W
1,651.00	19.70	251.75	1,613.94	-88.02	-271.22	14,543,939.92	2,032,341.50	40° 2' 26.460 N	109° 35' 59.110 W
1,741.00	19.42	256.36	1,698.75	-96.30	-300.16	14,543,931.19	2,032,312.69	40° 2' 26.378 N	109° 35' 59.482 W
1,801.00	20.44	256.90	1,755.16	-101.02	-320.06	14,543,926.15	2,032,292.87	40° 2' 26.331 N	109° 35' 59.738 W
2,011.00	22.92	254.54	1,950.29	-120.24	-395.20	14,543,905.75	2,032,218.04	40° 2' 26.141 N	109° 36' 0.705 W
2,101.00	21.70	255.27	2,033.55	-129.14	-428.19	14,543,896.33	2,032,185.20	40° 2' 26.053 N	109° 36' 1.129 W
2,191.00	21.92	255.21	2,117.11	-137.66	-460.52	14,543,887.31	2,032,153.00	40° 2' 25.969 N	109° 36' 1.545 W
2,281.00	21.31	255.76	2,200.78	-145.97	-492.61	14,543,878.49	2,032,121.04	40° 2' 25.887 N	109° 36' 1.957 W
2,371.00	18.58	254.53	2,285.38	-153.82	-522.29	14,543,870.18	2,032,091.50	40° 2' 25.809 N	109° 36' 2.339 W
2,401.00	18.28	254.18	2,313.84	-156.38	-531.42	14,543,867.48	2,032,082.40	40° 2' 25.784 N	109° 36' 2.456 W
2,521.00	17.38	247.52	2,428.09	-168.36	-566.09	14,543,854.95	2,032,047.93	40° 2' 25.666 N	109° 36' 2.902 W
2,551.00	17.77	246.49	2,456.69	-171.90	-574.43	14,543,851.28	2,032,039.64	40° 2' 25.631 N	109° 36' 3.009 W
2,641.00	18.41	248.48	2,542.24	-182.59	-600.25	14,543,840.18	2,032,014.00	40° 2' 25.525 N	109° 36' 3.341 W
2,731.00	19.09	249.86	2,627.46	-192.88	-627.29	14,543,829.47	2,031,987.13	40° 2' 25.423 N	109° 36' 3.689 W
2,815.00	18.60	247.97	2,706.96	-202.63	-652.60	14,543,819.32	2,031,961.97	40° 2' 25.327 N	109° 36' 4.015 W
<b>LAST SDI MWD SURFACE SURVEY</b>									
2,898.00	17.32	246.19	2,785.91	-212.58	-676.18	14,543,809.00	2,031,938.55	40° 2' 25.229 N	109° 36' 4.318 W
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,993.00	17.32	247.86	2,876.61	-223.62	-702.21	14,543,797.55	2,031,912.69	40° 2' 25.119 N	109° 36' 4.653 W
3,088.00	17.94	248.21	2,967.14	-234.38	-728.90	14,543,786.37	2,031,886.18	40° 2' 25.013 N	109° 36' 4.996 W
3,183.00	18.55	250.23	3,057.37	-244.92	-756.70	14,543,775.39	2,031,858.54	40° 2' 24.909 N	109° 36' 5.353 W
3,278.00	18.91	256.21	3,147.35	-253.71	-785.88	14,543,766.16	2,031,829.51	40° 2' 24.822 N	109° 36' 5.729 W
3,372.00	18.47	262.36	3,236.40	-259.32	-815.43	14,543,760.08	2,031,800.05	40° 2' 24.767 N	109° 36' 6.109 W
3,467.00	16.88	259.55	3,326.91	-263.82	-843.91	14,543,755.13	2,031,771.64	40° 2' 24.722 N	109° 36' 6.475 W
3,562.00	16.00	259.81	3,418.03	-268.64	-870.36	14,543,749.90	2,031,745.27	40° 2' 24.674 N	109° 36' 6.815 W
3,657.00	14.07	262.54	3,509.77	-272.45	-894.70	14,543,745.70	2,031,721.00	40° 2' 24.637 N	109° 36' 7.128 W
3,752.00	11.96	259.99	3,602.33	-275.66	-915.85	14,543,742.15	2,031,699.91	40° 2' 24.605 N	109° 36' 7.400 W
3,847.00	9.50	259.20	3,695.66	-278.85	-933.24	14,543,738.70	2,031,682.56	40° 2' 24.574 N	109° 36' 7.624 W
3,942.00	7.30	258.32	3,789.63	-281.54	-946.86	14,543,735.80	2,031,668.99	40° 2' 24.547 N	109° 36' 7.799 W
4,037.00	6.07	255.50	3,883.99	-284.02	-957.63	14,543,733.15	2,031,658.26	40° 2' 24.522 N	109° 36' 7.937 W
4,132.00	4.75	248.74	3,978.56	-286.70	-966.16	14,543,730.33	2,031,649.77	40° 2' 24.496 N	109° 36' 8.047 W
4,226.00	2.90	242.23	4,072.35	-289.22	-971.89	14,543,727.72	2,031,644.08	40° 2' 24.471 N	109° 36' 8.121 W
4,321.00	1.14	229.22	4,167.29	-290.96	-974.73	14,543,725.94	2,031,641.27	40° 2' 24.454 N	109° 36' 8.157 W
4,416.00	0.44	187.04	4,262.28	-291.94	-975.49	14,543,724.95	2,031,640.52	40° 2' 24.444 N	109° 36' 8.167 W
4,511.00	0.62	192.49	4,357.27	-292.80	-975.65	14,543,724.08	2,031,640.38	40° 2' 24.436 N	109° 36' 8.169 W
4,606.00	0.79	184.40	4,452.27	-293.95	-975.81	14,543,722.92	2,031,640.24	40° 2' 24.424 N	109° 36' 8.171 W
4,700.00	0.97	194.51	4,546.26	-295.37	-976.06	14,543,721.50	2,031,640.01	40° 2' 24.410 N	109° 36' 8.174 W
4,795.00	1.32	189.06	4,641.24	-297.23	-976.43	14,543,719.64	2,031,639.66	40° 2' 24.392 N	109° 36' 8.179 W
4,890.00	0.79	136.50	4,736.22	-298.79	-976.16	14,543,718.09	2,031,639.97	40° 2' 24.376 N	109° 36' 8.175 W
4,985.00	0.79	145.55	4,831.21	-299.80	-975.33	14,543,717.09	2,031,640.80	40° 2' 24.366 N	109° 36' 8.165 W
5,080.00	2.02	160.76	4,926.18	-301.92	-974.41	14,543,714.98	2,031,641.76	40° 2' 24.345 N	109° 36' 8.153 W
5,175.00	2.20	146.43	5,021.12	-305.02	-972.85	14,543,711.90	2,031,643.37	40° 2' 24.315 N	109° 36' 8.133 W
5,270.00	2.20	149.60	5,116.05	-308.11	-970.92	14,543,708.84	2,031,645.35	40° 2' 24.284 N	109° 36' 8.108 W
5,365.00	2.02	145.73	5,210.98	-311.07	-969.06	14,543,705.92	2,031,647.26	40° 2' 24.255 N	109° 36' 8.084 W
5,460.00	1.49	145.64	5,305.94	-313.47	-967.42	14,543,703.54	2,031,648.94	40° 2' 24.231 N	109° 36' 8.063 W
5,555.00	0.44	19.52	5,400.93	-314.15	-966.60	14,543,702.88	2,031,649.77	40° 2' 24.225 N	109° 36' 8.053 W
5,650.00	0.97	347.61	5,495.92	-313.02	-966.65	14,543,704.00	2,031,649.70	40° 2' 24.236 N	109° 36' 8.053 W
5,745.00	0.62	333.90	5,590.91	-311.77	-967.05	14,543,705.25	2,031,649.28	40° 2' 24.248 N	109° 36' 8.058 W

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-18D3DS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)
<b>Site:</b>	NBU 921-18D PAD	<b>MD Reference:</b>	GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)
<b>Well:</b>	NBU 921-18D3DS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,841.00	0.62	303.40	5,686.91	-311.02	-967.71	14,543,705.99	2,031,648.61	40° 2' 24.255 N	109° 36' 8.067 W	
5,935.00	0.18	340.58	5,780.91	-310.60	-968.18	14,543,706.40	2,031,648.13	40° 2' 24.260 N	109° 36' 8.073 W	
6,030.00	0.35	228.96	5,875.90	-310.65	-968.45	14,543,706.34	2,031,647.86	40° 2' 24.259 N	109° 36' 8.076 W	
6,125.00	0.70	223.34	5,970.90	-311.26	-969.07	14,543,705.72	2,031,647.25	40° 2' 24.253 N	109° 36' 8.084 W	
6,219.00	0.88	206.37	6,064.89	-312.33	-969.78	14,543,704.65	2,031,646.55	40° 2' 24.243 N	109° 36' 8.094 W	
6,314.00	0.88	198.11	6,159.88	-313.68	-970.33	14,543,703.29	2,031,646.02	40° 2' 24.229 N	109° 36' 8.101 W	
6,409.00	0.97	201.80	6,254.87	-315.12	-970.86	14,543,701.84	2,031,645.52	40° 2' 24.215 N	109° 36' 8.107 W	
6,504.00	1.06	199.17	6,349.85	-316.69	-971.45	14,543,700.26	2,031,644.96	40° 2' 24.199 N	109° 36' 8.115 W	
6,599.00	1.06	185.98	6,444.84	-318.40	-971.83	14,543,698.55	2,031,644.61	40° 2' 24.183 N	109° 36' 8.120 W	
6,693.00	1.06	187.74	6,538.82	-320.12	-972.03	14,543,696.82	2,031,644.43	40° 2' 24.166 N	109° 36' 8.122 W	
6,788.00	1.14	185.72	6,633.80	-321.93	-972.25	14,543,695.00	2,031,644.24	40° 2' 24.148 N	109° 36' 8.125 W	
6,883.00	0.62	173.06	6,728.79	-323.38	-972.28	14,543,693.55	2,031,644.23	40° 2' 24.133 N	109° 36' 8.126 W	
6,978.00	0.67	151.08	6,823.79	-324.38	-971.95	14,543,692.56	2,031,644.58	40° 2' 24.123 N	109° 36' 8.121 W	
7,073.00	0.79	138.35	6,918.78	-325.36	-971.24	14,543,691.60	2,031,645.30	40° 2' 24.114 N	109° 36' 8.112 W	
7,168.00	0.09	206.46	7,013.78	-325.91	-970.84	14,543,691.05	2,031,645.71	40° 2' 24.108 N	109° 36' 8.107 W	
7,263.00	1.23	346.29	7,108.77	-324.99	-971.12	14,543,691.97	2,031,645.42	40° 2' 24.117 N	109° 36' 8.111 W	
7,358.00	1.76	354.64	7,203.74	-322.54	-971.49	14,543,694.41	2,031,645.00	40° 2' 24.142 N	109° 36' 8.116 W	
7,453.00	1.58	0.62	7,298.70	-319.78	-971.62	14,543,697.16	2,031,644.84	40° 2' 24.169 N	109° 36' 8.117 W	
7,547.00	1.14	359.57	7,392.67	-317.55	-971.61	14,543,699.40	2,031,644.81	40° 2' 24.191 N	109° 36' 8.117 W	
7,642.00	0.96	8.90	7,487.65	-315.82	-971.49	14,543,701.13	2,031,644.90	40° 2' 24.208 N	109° 36' 8.116 W	
7,737.00	0.79	9.41	7,582.64	-314.39	-971.26	14,543,702.56	2,031,645.11	40° 2' 24.222 N	109° 36' 8.113 W	
7,831.00	0.88	15.30	7,676.63	-313.05	-970.97	14,543,703.90	2,031,645.38	40° 2' 24.235 N	109° 36' 8.109 W	
7,926.00	0.44	17.41	7,771.63	-312.00	-970.67	14,543,704.96	2,031,645.67	40° 2' 24.246 N	109° 36' 8.105 W	
8,021.00	0.26	35.69	7,866.62	-311.48	-970.43	14,543,705.49	2,031,645.89	40° 2' 24.251 N	109° 36' 8.102 W	
8,116.00	0.18	71.37	7,961.62	-311.25	-970.16	14,543,705.71	2,031,646.16	40° 2' 24.253 N	109° 36' 8.098 W	
8,211.00	0.26	159.00	8,056.62	-311.41	-969.94	14,543,705.56	2,031,646.38	40° 2' 24.252 N	109° 36' 8.096 W	
8,306.00	0.18	180.97	8,151.62	-311.76	-969.87	14,543,705.22	2,031,646.46	40° 2' 24.248 N	109° 36' 8.095 W	
8,401.00	0.26	153.81	8,246.62	-312.10	-969.78	14,543,704.87	2,031,646.55	40° 2' 24.245 N	109° 36' 8.093 W	
8,496.00	0.62	166.29	8,341.62	-312.79	-969.56	14,543,704.18	2,031,646.78	40° 2' 24.238 N	109° 36' 8.091 W	
8,590.00	0.88	160.58	8,435.61	-313.97	-969.20	14,543,703.02	2,031,647.16	40° 2' 24.226 N	109° 36' 8.086 W	
8,685.00	0.79	164.27	8,530.60	-315.29	-968.78	14,543,701.70	2,031,647.60	40° 2' 24.213 N	109° 36' 8.081 W	
8,780.00	1.14	164.80	8,625.59	-316.83	-968.35	14,543,700.17	2,031,648.05	40° 2' 24.198 N	109° 36' 8.075 W	
8,875.00	1.41	152.06	8,720.56	-318.77	-967.56	14,543,698.24	2,031,648.88	40° 2' 24.179 N	109° 36' 8.065 W	
8,971.00	1.32	165.24	8,816.54	-320.89	-966.72	14,543,696.14	2,031,649.75	40° 2' 24.158 N	109° 36' 8.054 W	
9,066.00	1.49	167.79	8,911.51	-323.15	-966.18	14,543,693.88	2,031,650.32	40° 2' 24.136 N	109° 36' 8.047 W	
9,161.00	0.42	169.05	9,006.49	-324.70	-965.86	14,543,692.34	2,031,650.67	40° 2' 24.120 N	109° 36' 8.043 W	
9,256.00	0.97	24.35	9,101.49	-324.31	-965.46	14,543,692.73	2,031,651.07	40° 2' 24.124 N	109° 36' 8.038 W	
9,351.00	1.06	16.18	9,196.47	-322.73	-964.88	14,543,694.32	2,031,651.62	40° 2' 24.140 N	109° 36' 8.030 W	
9,445.00	0.70	13.01	9,290.46	-321.34	-964.51	14,543,695.72	2,031,651.97	40° 2' 24.153 N	109° 36' 8.026 W	
9,540.00	0.26	67.15	9,385.46	-320.69	-964.18	14,543,696.37	2,031,652.29	40° 2' 24.160 N	109° 36' 8.021 W	
9,635.00	0.09	122.70	9,480.46	-320.65	-963.92	14,543,696.42	2,031,652.55	40° 2' 24.160 N	109° 36' 8.018 W	
9,730.00	0.53	137.64	9,575.46	-321.01	-963.56	14,543,696.06	2,031,652.91	40° 2' 24.157 N	109° 36' 8.013 W	
9,825.00	0.53	46.94	9,670.45	-321.04	-962.94	14,543,696.05	2,031,653.53	40° 2' 24.156 N	109° 36' 8.006 W	
9,920.00	0.47	338.62	9,765.45	-320.37	-962.76	14,543,696.71	2,031,653.70	40° 2' 24.163 N	109° 36' 8.003 W	
10,015.00	0.18	16.18	9,860.45	-319.87	-962.87	14,543,697.22	2,031,653.59	40° 2' 24.168 N	109° 36' 8.005 W	
10,110.00	0.18	64.25	9,955.45	-319.66	-962.69	14,543,697.43	2,031,653.76	40° 2' 24.170 N	109° 36' 8.002 W	
10,205.00	0.35	142.21	10,050.45	-319.82	-962.38	14,543,697.27	2,031,654.08	40° 2' 24.168 N	109° 36' 7.998 W	
10,300.00	0.79	133.51	10,145.44	-320.50	-961.72	14,543,696.60	2,031,654.74	40° 2' 24.162 N	109° 36' 7.990 W	
10,394.00	0.70	159.62	10,239.44	-321.49	-961.05	14,543,695.62	2,031,655.42	40° 2' 24.152 N	109° 36' 7.981 W	
10,489.00	0.79	183.87	10,334.43	-322.69	-960.90	14,543,694.43	2,031,655.60	40° 2' 24.140 N	109° 36' 7.979 W	
10,584.00	1.23	187.92	10,429.41	-324.35	-961.08	14,543,692.76	2,031,655.44	40° 2' 24.124 N	109° 36' 7.982 W	
10,679.00	1.67	205.58	10,524.38	-326.61	-961.82	14,543,690.49	2,031,654.74	40° 2' 24.101 N	109° 36' 7.991 W	
10,774.00	1.93	194.24	10,619.34	-329.41	-962.81	14,543,687.68	2,031,653.79	40° 2' 24.074 N	109° 36' 8.004 W	
10,869.00	2.11	192.49	10,714.28	-332.67	-963.58	14,543,684.41	2,031,653.07	40° 2' 24.042 N	109° 36' 8.014 W	
10,963.00	2.11	187.39	10,808.21	-336.07	-964.18	14,543,681.00	2,031,652.53	40° 2' 24.008 N	109° 36' 8.021 W	

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 921-18D PAD  
**Well:** NBU 921-18D3DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-18D3DS  
**TVD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**MD Reference:** GL 4711' & KB 19' @ 4730.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,058.00	2.02	188.79	10,903.15	-339.46	-964.66	14,543,677.60	2,031,652.10	40° 2' 23.974 N	109° 36' 8.028 W
11,153.00	2.20	179.57	10,998.09	-342.94	-964.90	14,543,674.12	2,031,651.91	40° 2' 23.940 N	109° 36' 8.031 W
11,248.00	2.20	183.43	11,093.02	-346.58	-965.00	14,543,670.47	2,031,651.88	40° 2' 23.904 N	109° 36' 8.032 W
11,342.00	2.37	183.87	11,186.94	-350.32	-965.24	14,543,666.73	2,031,651.70	40° 2' 23.867 N	109° 36' 8.035 W
11,437.00	2.29	175.35	11,281.87	-354.17	-965.22	14,543,662.88	2,031,651.78	40° 2' 23.829 N	109° 36' 8.035 W
11,532.00	2.46	177.90	11,376.78	-358.10	-964.99	14,543,658.95	2,031,652.07	40° 2' 23.790 N	109° 36' 8.032 W
11,627.00	2.29	172.27	11,471.70	-362.02	-964.66	14,543,655.04	2,031,652.46	40° 2' 23.751 N	109° 36' 8.028 W
11,722.00	2.20	180.88	11,566.63	-365.72	-964.43	14,543,651.34	2,031,652.75	40° 2' 23.715 N	109° 36' 8.025 W
11,745.00	2.37	182.12	11,589.61	-366.64	-964.45	14,543,650.43	2,031,652.74	40° 2' 23.706 N	109° 36' 8.025 W
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
11,799.00	2.37	182.12	11,643.57	-368.87	-964.54	14,543,648.19	2,031,652.69	40° 2' 23.684 N	109° 36' 8.026 W
<b>SDI PROJECTION TO TD</b>									

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
220.00	220.00	0.12	0.04	FIRST SDI MWD SURFACE SURVEY
2,815.00	2,706.96	-202.63	-652.60	LAST SDI MWD SURFACE SURVEY

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/8/2016  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION         </div> </div> <div style="margin-top: 10px;"> <b>OTHER:</b> <span style="border: 1px solid black; padding: 2px;">TUBING FAILURE</span> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> A WORKOVER FOR TUBING FAILURE HAS BEEN COMPLETED ON THE NBU 921-18D3DS WELL. PLEASE SEE THE ATTACHED OPERATIONS SUMMARY REPORT FOR DETAILS.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> January 12, 2016		
<b>NAME (PLEASE PRINT)</b> Kristina Geno		<b>PHONE NUMBER</b> 720 929-6824
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 1/12/2016		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-18D3DS GREEN				Spud Conductor: 6/23/2011				Spud date: 7/14/2011			
Project: UTAH-UINTAH				Site: NBU 921-18C PAD				Rig name no.: MILES-GRAY 1/1			
Event: WELL WORK EXPENSE				Start date: 12/30/2015				End date: 1/8/2016			
Active datum: RKB @4,730.00usft (above Mean Sea Level)				UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0							
Date	Time Start-End		Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation		
12/30/2015	14:45	- 17:00	2.25	MAINT	30	A	P		ROAD TO LOCATION FROM NBU 920-14M PAD. MIRU. SPOT IN ALL EQUIP. SDFN.		
12/31/2015	7:00	- 7:15	0.25	MAINT	48		P		SAFETY = JSA.		
	7:15	- 10:30	3.25	MAINT	30	F	P		FCP & FTP= 50#. BLOW DOWN WELL. NDWH. UN-LAND TBG. TBG STUCK. STUCK SHALLOW, CAN NOT REMOVE HANGER. CAN NOT INSTALL 2-3/8" PUP JTS DUE TO 3-1/2" PRODUCTION CSNG. WORK TBNG FOR +/- 2HRS. TBNG POPPED FREE. NUWH. R/U FLOOR & TBNG EQUIP. PREP FOR SCANNERS.		
	10:30	- 16:00	5.50	MAINT	31	I	P		MIRU SCANNERS. POOH WHILE SCANNING 336JTS 1.90" IJ TBNG. L/D ALL TBNG FOR BETTER INSPECTION. SCAN RESULTS AS FOLLOWS.  Y-BND= 85NTS R-BND= 251JTS. LIGHT SCALE JT#1 THRU JT# 68. JT#68 THRU JT#125 MODERATE TO HEAVY OD SCALE. LIGHT OD SCALE THRU REST OF STRING. SUSPECT TBNG STUCK @ +/- 3000'. FIRST 85JTS GOOD . REMAINDER OF STRING REJECTED W/ LIGHT TO MODERATE INTERNAL WALL LOSS & PITTING. MULTIPLE JTS FOUND TO BE OVER TORQUED & ID WAS REDUCED.  RDMO SCANNERS. SWIFWE. LOCK RAMS. SDFWE.		
1/4/2016	7:00	- 7:15	0.25	MAINT	40		P		SAFETY = JSA.		
	7:15	- 11:00	3.75	MAINT	34	G	P		SICP= 60#. BLOW DOWN WELL TO FLOWBACK TANK. MIRU BRAIDED LINE TRUCK. P/U BRAIDED LINE LUBE W/ RIG. P/U & RIH W/2-5/8" GR: T/U @3330' AND FALL THRU. T/U @ 4660' SOLID. POOH W/ BRAID LINE & L/D GR. P/U & RIH W/ 1-3/4" TOOLS. T/U HIGH @11,194'. BTM PERF @11,589', TOP PERF @11,198'. POOH W/ BRAID LINE. RDMO BRAID LINE.		
	11:00	- 15:00	4.00	MAINT	30		P		AFTERNOON SPENT ON PLANNING & DECISION MOVING FORWARD. SWIFN. LOCK RAMS. SDFN.		
1/5/2016	7:00	- 7:15	0.25	MAINT	48		P		SAFETY = JSA.		
	7:15	- 10:15	3.00	MAINT	40	B	P		SICP= 60#. BLOW DOWN CSNG. MIRU PUMP TRUCK. PUMP 6.5BBLS INHIBITED 15% HCL ACID. FOLLOW W/ .5BBLS H2S SCAVENGER & BIOCID. KICK IN RIG PUMP & DISPLACE W/ 135BBLS TMAC TO TOP PERF. PUMP DISPLACEMENT 3/4BPM @ 2500#. SWI @2500# & TOOK 20MIN TO BLEED OFF TO 0#.		



## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud date: 7/14/2011	
Project: UTAH-UINTAH		Site: NBU 921-18C PAD			Rig name no.: MILES-GRAY 1/1
Event: WELL WORK EXPENSE		Start date: 12/30/2015		End date: 1/8/2016	
Active datum: RKB @4,730.00usft (above Mean Sea Level)			UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	10:15 - 17:00	6.75	MAINT	31	I	P		<p>P/U &amp; RIH W/ 2-1/16" N.C. + 2-1/16" X 1.448"XN NIPPLE + 154JTS 1.90" N-80 10RD IJ TBNG. SET &amp; CHECK TORQUE ON 1.90" TBNG MULTIPLE TIMES WHILE RIH (BREAKING APART CONNECTION SEVERAL TIMES AND END DRIFTING IT TO MAKE SURE IT ISNT BEING OVER TORQUED. EOT @5012'. INSTALL WASHINGTON RUBBER.</p> <p>MIRU FOAM-AIR UNIT. BREAK CONV CIRC IN 10MIN. UN-LOAD WELL FOR 30MIN. PUMP 4BBL TMAC TOP KILL DOWN TBNG.</p> <p>CONT RIH TBNG. WELL STOPPED FLOWING. LEAVE EOT @6316' W/ 195JTS TBNG + BHA. R/U FOAM-AIR UNIT. BREAK CIRC IN 15MIN. UN-LOAD WELL FOR 45MIN. SWIFN. LOCK RAMS. SDFN.</p> <p>FOAM UNIT RECOVERD 80BBLS FLUID. NO SOLIDS IN RETURNS.</p>
1/6/2016	7:00 - 7:15	0.25	MAINT	48		P		SAFETY = JSA.
	7:15 - 17:00	9.75	MAINT	31	N	P		<p>SICP &amp; SITP= 1200#. BLOW DOWN CSNG TO FLOWBACK TANK. R/U FOAM-AIR UNIT. EOT @6316'. BREAK CONV CIRC IN 20MIN. UN-LOAD WELLBORE FOR 45MIN. CNTRL TBNG W/ 8BBLs TMAC.</p> <p>CONT RIH W/ 1.90" N-80 10RD IJ TBNG + XN-NOTCH NIPPLE. WELL LOADED UP &amp; QUIT FLOWING. DECIDE TO UNLOAD WELL AGAIN W/ 239JTS (EOT @7699'). R/U FOAMER. BREAK CONV CIRC IN 20MIN. UN-LOAD WELLBORE FOR 30MIN. CNTRL TBNG W/ 8BBLs TMAC.</p> <p>CONT RIH W/ 1.90"TBNG + BHA. WELL LOADED UP &amp; QUIT FLOWING. DECIDE TO UNLOAD WELL AGAIN W/ 283JTS (EOT @9075'). R/U FOAMER. BREAK CIRC IN 20MIN. UN-LOAD WELLBORE FOR 40MIN. CNTRL TBG W/ 8BBLs TMAC.</p> <p>CONT RIH W/ 1.90" TBNG + BHA. T/U ON SCALE @ 11,198' W/ 250JTS +BHA. R/U FOAM AIR UNIT. BREAK CONV CIRC IN 90MIN. BEGIN WORKING TBNG. SLOWLY CHIPPING AWAY AT SCALE. WORK THRU 14' OF SCALE &amp; FALL THRU. WORK TBNG UP &amp; DOWN SEVERAL TIMES FREELY. LEAVE EOT @11,224' &amp; CIRC WELLBORE CLEAN FOR 1HR. PUMP 10BBL TMAC TOP KILL DOWN TBNG. STAND BACK 10JTS TBNG. SWIFN. LOCK RAMS. DRAIN EQUIP. SDFN.</p>
1/7/2016	7:00 - 7:15	0.25	MAINT	48		P		SAFETY = JSA.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-18D3DS GREEN		Spud Conductor: 6/23/2011		Spud date: 7/14/2011	
Project: UTAH-UINTAH		Site: NBU 921-18C PAD			Rig name no.: MILES-GRAY 1/1
Event: WELL WORK EXPENSE		Start date: 12/30/2015		End date: 1/8/2016	
Active datum: RKB @4,730.00usft (above Mean Sea Level)			UWI: NW/NW/0/9/S/21/E/18/0/0/26/PM/N/888/W/0/1788/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:15 - 17:00	9.75	MAINT	31	N	P		SICP= 1800#. SITP= 1400#. BLOW DOWN CSNG TO FLOWBACK TANK. BLOW DOWN TBNG TO FLAT TANK. CNTRL TBG W/ 5BBLS TMAC. TIH W/ 10JTS 1.90" N-80 IJ TBNG FROM THE DERRICK. P/U & RIH W/ 8 MORE JTS FROM PIPE TRAILER. T/U @11,480' W/ 358 TTL JTS 1.90" TBNG + XN-NOTCH NIPPLE. INSTALL TSF. P/U TBNG SWIVEL. R/U N2 FOAMER.
								BREAK CONV CIRC W/ N2 FOAMER IN 2HRS. CHISEL THRU HARD SCALE F- 11,480' T- 11,535'. FALL THRU SCALE. C/O SAND TO 11,609' W/ 362JTS TOTAL + BHA. COULD NOT GET DEEPER (BTM PERF @11,589'). CIRC WELL CLEAN FOR 90MIN. CNTRL TBNG W/ 10BBLS TMAC. L/D 1JT TBNG. POOH WHILE STD BACK 14JTS. LEAVE EOT @11,128'. SWIFN. DRAIN EQUIP. LOCK RAMS. SDFN.
1/8/2016	7:00 - 7:15	0.25	MAINT	48		P		SAFETY = JSA.
	7:15 - 10:10	2.92	MAINT	40	B	P		SICP= 1900#. SITP= 1400#. MIRU CHEMICAL PUMP TRUCK. PUMP 6.3BBLS 15% INHIBITED ACID +.5BBL BIOCID & H2S SCAVANGER. DISPLACE ACID BELOW TOP PERF W/ 29.5BBLS TMAC. SHUT WELL IN. WAIT 2HRS FOR ACID TO SPEND.
	10:10 - 15:00	4.83	MAINT	31	N	P		BLOW DOWN CSNG TO FLOWBACK TANK. CNTRL TBNG W/ 5BBLS TMAC. TIH W/ 15JTS TBNG (EOT @11,600'). R/U N2 FOAM UNIT. BREAK CONV CIRC IN 1HR. UN-LOAD WELL FOR AN ADDITIONAL HOUR UNTIL ALL RETURNS WERE CLEAN. RDMO N2 FOAM UNIT. CNTRL TBNG W/ 10BBLS TMAC. POOH WHILE L/D 15JTS 1.90" IJ TBNG. LUBE IN HANGER. LAND TBNG.
								PRODUCTION TBNG LANDED AS FOLLOWS: KB= 19.00' HANGER= .83' 2-3/8" X 1.90" IJ CHANG OVER= .67' 347JTS 1.90" N-80 IJ 10RD= 11,114.90' 1.90" IJ X 2-1/16" XO= .50' 2-1/16" X 1.448" XN-NOTCH= 1.10' EOT@ 11,137.00'
	15:00 - 17:00	2.00	MAINT	35		P		MIRU SLK LINE. P/U & RIH W/ 1.516" BROACH. BROACH ALL 1.90" IJ TBNG GOOD FROM SURFACE TO XN NIPPLE @11,137.00'. BROACH HUNG UP IN MULTIPLE COLLARS WHILE POOH DUE TO BROACH DESIGN (SQUARE SHOLDERS). R/D FLOOR & TBG EQUIP. NDBOP. NUWH. SWI. DRAIN EQUIP. SDFN. PREP FOR RDMO MONDAY AM.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-18D3DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0888 FNL 1788 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 18 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505350000
<b>PHONE NUMBER:</b> 720 929-6507		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> Uintah		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/15/2016	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. The NBU 921-18D3DS well was returned to production on 1/15/2016. Thank you.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> January 20, 2016		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas	<b>PHONE NUMBER</b> 720 929-6808	<b>TITLE</b> Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 1/20/2016	